The Builder.

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French Opinions and French Art.—The "Revue Générale de l'Architecture."

MONS. DALY'S review named in our title is little read in England, though now in the nineteenth year of its existence, and undeniably an admirable work. It is remarkable, as we have before now said, both for its engravings, which are models of all that purely architectural drawing should be, and for its essays, which are as perspicuously exact as the drawings illustrating them: it only requires to be known to be appreciated. We shall be performing a double service by again bringing it before our readers.

It is no easy task to combine merely transient and technical topics with subjects of enduring interest in such a manner as to form high-class volumes fit both for professional and general libraries. This is, however, the task which M. César Daly, the editor of the "Revue de l'Architecture" has accomplished successfully, producing a monthly *résumé* of the most important professional news, and an annual volume which all amateurs, as well as professors, of architecture should read and possess.

As the title indicates, the newspaper element is subordinated to the critical, and, bearing this in mind, one overlooks the more readily certain irregularities of publication, which would be quite inexcusable in a journal. A journal, for instance, which, purporting to appear once every month, sometimes delayed its issue for two or even three months, and then proffered little more than half the matter which was due for the interval, would—at least on this side of the Channel—shortly lose its subscribers. And, indeed, such irregularities are considerably damaging to the character of the *Revue*, and should be remedied, as well out of respect for subscribers as for commercial reasons. But when we have mentioned this defect, which is rather one of past time than the present, and a somewhat similar laxity in the matter of serial articles, we have already exhausted mere blame, and may move to more valuable points of view.

The first glance along its pages reminds one involuntarily of a walk through the streets of modern Paris, it is so eminently and characteristically French. In both cases we are struck by a tone and style remarkably contrasting with our English ways. There is the prominent prevalence of a systematic and scientific habit of mind; a deference everywhere to some "*grande idée*," which compresses all individual vagary within narrow and superficial limits, and aims at complete and exhaustive classification and arrangement. There is, equally in the streets and the pages, a calm, broad, mathematical treatment, and a brilliant, fascinating surface effect,—the play of architectural or literary ornament over a plan—a style—prepared by rigorous general axioms and universal principles. There is the same effect of restraint and refined conventionality about both; the same treatment even of nature, as artificial in the boulevards as abstract in the book. We may, perhaps, add, there seems the same absence of feeling and genuine interest about both,—of an affection for art which dwells upon details with real enthusiasm,—of a personal conviction which heats a style with the fire of earnestness rather than enlivens it with the sparkles of brilliance.

We shall justify these remarks and this analogy better by quotation than by any vague amplification,—not choosing our extracts, however, with reference to it, but rather from such parts as may exhibit a good work at its best.

Taking up the volume for the year before last (with which we commence our notice, for reasons mentioned below), we turn naturally first to whatever may be said about ourselves. It is not, perhaps, a great deal, but the opinion of "intelligent foreigners" is always as interesting as it is proverbially valuable.

We find two or three papers read at the Royal Institute of British Architects, translated at length, and published in some cases with the explanatory diagrams. This is satisfactory and complimentary, to begin with. We have Mr. Owen Jones's paper on the Principles of the Composition of Ornaments at various epochs, and Mr. Charles Barry's description of the scaffolding employed at the New Palace of Westminster.

We next happen upon a lively description of the Reform Club-house, situated, as we are told more than once, in *Piccadilly*; "a name almost as well known," says the writer, "as that of our Palais Royal. It is there that the principal clubs of London are grouped. The *Tories* here—there the *Whigs*; on one side the *Athenæum*, where reposes sedentary literature; on the other side the *Traveller's* Club, where is concentrated more knowledge of the earth and its inhabitants than in all geographies; then come the *Army and Navy*, and any number more."

This paper is illustrated by plans, elevations, *and sections exquisitely rendered on steel, and* opens with a disclaimer, half in earnest: "Let not the reader alarm himself at the title of this article, it will be in no sense political. We are not going to denounce a new secret society; the members of the Reform Club are not revolutionists." The description of the building follows, and is concluded by some reflections on "Progressive Architecture," and the complex buildings of the moderns, as compared with the simpler antique forms:—

"This edifice," says M. Daly, "is not an inert mass of stone, brick, and iron; it is almost a living body, with its circulatory and nervous systems. In these walls, so motionless to the eye, circulate in fact gases, vapours, fluids, liquids; on exploring them one discovers flues, conduits, wires—the arteries, veins, and nerves of this new organic being—by which are carried warmth in winter, fresh air in summer, and in every season, light—warm water—cold water — food — and all the numerous accessories which a high civilisation demands.

By these concealed roads the will itself travels, orders to servants pass, clocks are regulated, and, thanks to their aid, the abominable iron bell-wires cease to disfigure the corners of rooms. In this monument, modern science is our servant; she is prompt, obedient, nice (as she can be at pleasure), and discreet,—as all men know. * * * It is in edifices devoted to the wants of large numbers—as hotels and clubs—that one can trace best the characteristic traits of future architecture. * * * It is in buildings where many men assemble freely, putting their existences in contact at many points, that one will find accumulated the proofs of that serious alliance between art and science which so many artists have put aside as impossible. Without faith in their age, these blind ones have been unable to see the fertile germs which already push their vigorous shoots across and through the dust and ruin of the old world and of ancient art-traditions.

Beset by the dream of a resurrection of the past, they have concentrated all their energies on nourishing exclusively this one branch — the antique—or that other branch—the mediæval—without perceiving that the roots themselves of the tree were already dead."

Passing by various notices of recently acquired antiquities in our British Museum, and archæological researches made by Englishmen in Assyria and other places, we find, in an essay on the Manchester Exhibition, the most entertaining reference to ourselves contained in the vol. for 1857. The author (M. Husson), after a general recital of the contents of the Exhibition, says of Sir Joshua Reynolds' painting:—

"He has transferred to the domain of art the peculiar sentiment of his race; he has realised the ideal of the English type; he has given the exact impression which the phenomena of light, its play and contrast, produce on English eyes; he has shown in the woman and child of the English race those beings, refined, slender, delicate, almost transparent, almost aerial, of a velvety whiteness, which the faintest ray piercing the murky British atmosphere suffices to illuminate, to make shine, and of which the *Una* of Spenser, the *Miranda* of Shakspeare, and the *Ianthe* of Lord Byron, offer the poetical analogies. I know not whether I fall into extravagance, but perhaps you will understand me better when I recall to you that verse of Spenser:—

> 'From her fayre head her fillet she undight,
> And laid her stole aside; her angel's face,
> As the great eye of Heaven, shined bright,
> And made a sunshine in the shady place.'
> *Fairy Queen*, Book I. Canto 3.

Reynolds excelled in painting children. Among his child-portraits I note two which are charming—'The Schoolboy,' and 'The Strawberry Girl:'—the last, a little untamed fawn, has a strange look, unquiet, furtive, obstinate, and prettily fierce.

Reynolds has sometimes approached the style of mockery and pleasant irony. His *Puck*, seated on a toad-stool, is very droll; it is not, however, altogether Shakspeare's *Puck*; it belongs to the class of antique satyrs, with the addition of modern malice, a mixture which resembles him to certain masks, introduced by Jean Goujon into decorative sculpture. * * * A name which deserves to increase in celebrity is that of Gainsborough. I would cite the portrait of 'The Blue Boy,' and a likeness of Mrs. Siddons, the great actress. These are works of the subtlest talent and of great charm.

Hogarth is always very interesting, but less as a painter proper than a satirical moralist. The pictures of Wilkie, that arch and tender observer, are less pleasing than the engravings from them. Lawrence has greatly lost his former fame. Turner is often poetical, but lacks solidity and consistency; he is hardly more, whatever his enthusiastic panegyrist, Mr. Ruskin, may say, than a pseudo-great painter. Turner has his devotees, nay, more, his fanatics. To Mr. Ruskin, for example, Turner is neither more nor less than a discoverer who should be placed amongst the greatest geniuses of England and of the world. In fact, says he, it is by Shakspeare that the seal has been broken, and humanity unveiled; it is by Bacon that the principles of nature have been discovered, and by Turner—her aspect.

Mr. Ruskin is a brilliant critic, whose ideas are often just in their boldness, but too often also mixed up with exaggerations and outrageous paradoxes.

Constable has observed nature closely, and rendered her with a little heaviness, perhaps, but with force and freedom. The colours contrast with each other as boldly on his canvases as in the real scene. Without falling into such minute imitation as the living landscape painter, Mr. Linnell, he is faithful, and if he fails to give a great variety of expression, or subtlety of interpretation, at least he produces an effect of luxuriance. * * * Landseer is well known and appreciated in France. I regret that grey tones are too prevalent in his pictures. His animals are very frequently no more than actors in a human comedy; at other times, however, he takes them without any fabulist intention, and in their natural guise. He feels deep interest, and carries us with him, in all the tawny race of deer and stags. Some of his Scotch idylls recall the scenes of the great rural poet, Robert Burns. * * *

The school of pre-Raphaelites, so warmly patronized by Mr. Ruskin, counts for its chiefs Mr. Millais, Mr. Hunt, and Mr. Windus; for disciples, Messrs. Hughes, Hook, Wallis, &c. The pretension of this school is, as its name implies, to return to the usages and systems of the masters anterior to Raphael, without dreaming, however, of imitating the stiff and awkward forms of Gothic painting, as was attempted some years since in France. They do not desire, as they inform us by their organ, Mr. Ruskin, to return to the *ignorance* of the primitive painters, but to the *principles* on which they acted from the time of Giotto; *i. e.* to seek the strict truth, to avoid the conventional and academic nobleness.

The pre-Raphaelites are then realists and *genre* painters, but they differ widely from the French realists; in seeking the true, they do not renounce noble sentiment and lofty thought; our French realists, on the other hand, only attach themselves to the truth on the condition of finding it ignoble, or, at the least, trivial and vulgar. * * * * I confess I delight greatly in Mr. Mil-

lais' 'Dove from the Ark;' and, despite its exaggerated intensity of colour, in his 'Autumn Leaves.'

As to English sculpture, it is lean, pretentious, softly elegiacal, or weakly coquettish; engaged, in fine, in a detestable course.

One asks, why the presence of the Parthenon* marbles at the British Museum has not exercised a healthier influence over British sculptors? * * * A competition has lately taken place for the Duke of Wellington's monument in St. Paul's Cathedral. The designs of the numerous competitors were exhibited in one of the rooms of Westminster Hall (*sic*). All were most mediocre when not ridiculous.

It is probable that it will be necessary to have recourse, for the erection of this national monument, to a stranger, who has made himself a great position in London; M. le Baron Marochetti."

Leaving now, however, the search for English names in the volume, we turn back to observe the division of every number into formal sections, each headed by a vignette title, and named respectively, "History," "Practice," "Miscellaneous."

Under each section in each number we meet with essays of scholarly excellence extending over a great range of subjects. There are treatises on "Animals, from an art point of view," by M. Husson; on "Chinese Architecture," by M. Collery; on "Ancient coloured Glass," by M. Jollivet; on the "Ancient Ports at the Mouth of the Tiber,"—an elaborate series of papers, by M. Tenier, Member of the '*Institut*'; on "Natural Polychromy," by M. César Daly; on the "Count de Laborde's 'Report upon the Application of Art to Industry,'" by M. Lemaitre; M. Lenoir's "Report on Henszlmann's System;" and many others. But very principally noteworthy and admirable is a long series of profound and luminous essays by M. Beulé, on the "Architecture of the age of Pisistratus,"—a series so brilliant and interesting as to demand a separate notice, and to which we shall hope to return upon another occasion.

From amongst the other articles above named, we select the following as specimen passages:—

"In 1850," says M. Lemaitre, in his review of M. de Laborde's "Report," "M. de Laborde was sent to London as French delegate to the Great Exposition. He was named a member of the 30th jury, appointed for the judgment of fine-art works. Let us hasten to add that on this point France seemed to endeavour to escape the contest. None of her celebrated artists, excepting Pradier, sent their works to the Crystal Palace. Impartiality was so much the easier to the French delegate; instead of warmly defending national productions, and exaggerating their merits in his own eyes, while vaunting them to his colleagues for the sake of prizes, he applied himself as an impartial observer to the various objects submitted to him, and to the determination of their inferiority or superiority to French works.

The result of his examination seems at first sight favourable to France, for M. Laborde establishes that she alone, at the present time, possesses great artists, and that the works she exhibits are remarkable amongst all: but he at the same time reports a symptom of universal decadence, to which he frequently calls the attention of Government (and please God his appeal be heard!); the attention, also, of men of taste; and of those who have already noticed the danger. This danger is 'common-place.' The nineteenth century has no style of its own. In this respect all originality seems refused to it, and it is by a heavy and tasteless luxury that our time endeavours to displace the recollection of that beauty which it seems to despair of obtaining. The ornaments of all epochs, mixed and confounded without order or choice, constructions copied now from Grecian temples, now from Gothic abbeys, furniture either Chinese or *rococo*, or Egyptian or Renaissance, servile and unskilful copies which jar with all surrounding them; behold all that the imagination of our fashionable manufacturers can offer to the caprice of a *blasée* opulence! As to the man of taste, the artist or amateur who seeks in all things simplicity and beauty,—there is no place for him in the times in which we live. Is this decadence, then, definitive, and must we resign ourselves to it? M. de Laborde thinks not. He recognizes the corruption of taste and the false direction of artists; but he believes there is yet time to remedy this actual corruption. He is convinced that by an energetic reaction against a lamentable impulse, one may arrest the artists and great manufacturers in their false path, replace them in the right road, and inaugurate at length the triumph of modern art. * * * As contributing towards this great and desirable object M. de Laborde suggests and examines various studies, theoretical and practical. He devotes the first portion of his report to a very original and very beautiful historical essay, * * * and then, thinking that the comparison of diverse peoples is not less instructive than that of diverse epochs, he studies with penetrating sagacity (says M. Lemaitre), the productions sent from all parts to the universal exposition of London. * * * He concludes that if we would assure to our country the superiority which she yet preserves, but which others already begin to dispute, we must energetically resist the invasion of bad taste, organize upon a larger basis the teaching of the fine arts, and, in fine, thoroughly introduce, in every manner, art into industry.

To attain this triple end M. de Laborde indicates many ways; evidently that on which he counts the most is the universal teaching of drawing from childhood.

'While yet the hand is incapable of labour,' says he, 'from two to six years, one can teach *children* to *see* in teaching them to *look*; and when one *sees*, one has already mastered the most difficult and most essential part of drawing.'

'If,' he goes on, 'this was an innovation in the habits of men, I should hesitate to propose its adoption: I should doubt its success; but it is old as the world. Four hundred years before Christ, Pamphylus, the most famous painter of Sicyon, had obtained as a rule and even an obligatory law, that all children should learn to draw before learning to write—before undertaking any other study; and the generation formed by this excellent system, gave Greece more artists than writers, gave her especially that delicate public which was competent judge of Ictinus, Phidias, and Apelles. Drawing is not an art. Let us proclaim it loudly and at once, that it be not put aside as a luxurious superfluity, reserved for idle people, or as a special study for artists. Drawing is a sort of writing, and before long every man will have a good or bad drawing hand, as now a good or bad hand in writing; but it will be disgraceful not to draw at all, and a man will blush for it, as now he blushes if he cannot write; and just as to write, that is to trace upon paper one's thought with ink which flows down from a pen, does not constitute the talent for writing, that is, to have profound or elevated thoughts expressed in a precise or glowing style, so also to draw all that one sees or has seen will not constitute the talent of an artist, nor authorize pretensions which flow from it. Formerly a man was held in honour who could read and write correctly; a position in the world was reserved for him. Soon to become a private in the army—a labourer in civil life—it will be necessary to read, to write, and to draw.

'Mark well, that drawing is a language which no spoken or written description can replace. * * Writing is a part of drawing; to teach it alone is the mistake. * * * To teach children the proportions of things by the habit of figuring natural objects, is to approach them through their imitative instincts; to lead them *at the same time* to make letters, is to facilitate for them the imitation of the conventional figures which compose writing. Thus the child who will have reproduced easily and pleasurably a flower, because it is a familiar object to him, will pass readily to the imitation of the letter P, which, despite its strangeness and meaninglessness, harmonizes with his natural ideas of just proportions. * * * But to compel the child at first, and without any previous preparation of his judgment or exercise of his hand, to reproduce mechanically figures which to him have no meaning, no association with any of the forms his eyes are accustomed to rest upon, is to take reason in reverse and study backwards—to disgust and stupify the child. Thus, what is writing for children if not a long punishment, of which the progress is marked out by the trace of tears? How far otherwise, if drawing, an attractive study, has preceded writing: then the latter presently mingles in as a companion pursuit, and the child passes from one to the other, assisting each by each. * * * Nothing so much as drawing, especially when acquired in youth, accustoms the mind to rest upon objects and to observe them keenly, till their general and peculiar forms are fixed in the memory. This gift of observation, so exercised and developed, becomes through life the source of a thousand enjoyments which escape other men.'

'I have quoted,' says M. Lemaitre 'all this passage, because it is the fundamental idea of M. de Laborde's book—nay, more, the future of art and industry.'"

From M. Daly's article on "Natural Polychromy," we select the following:—

"In our moist climates, the application of colour to the exterior of monuments is met by serious difficulties. We published in this *Revue* (in the year 1849-50, plates 45, 46, and 47) the tomb of Admiral Dumont d'Urville, designed by M. Constant Dufeux, whose teaching has largely contributed to spread the taste for architectural polychromy among the students of the School of Architecture in Paris. This little monument, inaugurated in 1844, has already been repainted many times, and the same lot is certainly reserved for the charming hotel of Prince Napoleon, in which our *confrère*, M. Lenormand, has realized so brilliant a Pompeiian dream.

The perishable character of external painting in these damp and rainy climates, naturally presented itself to our professional brethren, from the very commencement of dissensions on the matter, as a serious objection to the general adoption of polychromy for the façades of buildings. * * * * In the midst of the researches, experiments, and sometimes the failures in polychromy, for the last thirty years, some artists, distrustful, perhaps, of the resources of modern science and industry, or determined to adopt nothing but methods consecrated by history—the architect antiquarians abounding for now twenty years—declare that external polychromy ought to retrict itself to the employment of materials variously coloured by nature. They think it should only be a species of mosaic, where the incrustation is so combined with the ordinary and usual construction, as to give the luxury and variety of colour, in unison with that solidity and durability so essential to external ornament, and to all sound building.

This theory only errs by its narrowness; what it admits is very well, but it does not admit enough. Above all, it seems to renounce too readily the benefits which the progress of science and industry have conferred already, and will confer every year more abundantly upon our art.

Meanwhile natural polychromy is more and more appreciated. If the style of Louis XIII. is just now the leading fashion in Paris, it is undoubtedly much more due to the charming effect of contrast produced by brick and stone, than to any qualities of correctness, stability, grace, or even logic which appertain to it, for these qualities have never characterized the transient phase of architecture called after Louis XIII. On principle we disapprove imitation of the Louis XIII. as of any other ancient style. This imitation is but a fashion, and will be as ephemeral. But we must at the same time remark, that the present adoption of this style will not have been entirely useless; it will have strengthened the taste for polychromatic architecture, by familiarising the public with the spectacle of contrasting colours on the exterior of buildings. It is in the same manner, but even to a greater extent, that the neo-Gothic *Renaissance*, now declining to its end, will have introduced us to beauties—to technical processes—to crafts now long neglected, and which will have been thus happily rescued from the tomb.

It is in the same manner again that we shall, doubtless, witness and assist the restoration of other ancient styles, each one only traversing the transitory scene of our existence, to deposit in our minds some neglected germ, some inspiration useful to the unfolding of a new art, which, to develop itself freely, only awaits the moment when society herself shall repose in the security of principles distinctly formulated and widely adopted. For art can never be, and has never been other than the reflex of contemporary society, mobile or stable as it is, founded like it upon the caprice of a day, or upon lasting principles."

In the double number (4—5) is a report made by M. Albert Lenoir to "the Archæological Section of the Committee of the Language, History, and Arts of France, at the Ministry of Public Instruction," a document which would appear sufficiently unique in an English blue-book, but very illustrative of the scientific patronage extended from the highest places of the French nation, and of the detailed and intimate interest in all that can affect national education, so advantageously contrasting our neighbours with ourselves:—

* *Pantheon* marbles in the original.

"I had the honour," says M. Lenoir, "at the last month's session of the archæological section to submit to you a work of M. le Docteur Henszlmann, entitled 'A Treatise upon the Discovery of the System of Classical and Mediæval Architecture.' In it the author explained that after examination of many hundreds of the most remarkable monuments of Greece, Italy, France, Germany, England, and Hungary, he had discovered a process by means of which their architects had established the proportions between the mass and the details of the buildings so as to produce harmony. After having indicated some developments of it calculated to explain the importance and utility of the discovery, he terminated by proposing to communicate it to a special commission, undertaking to make good the evidences of his theory if the administration condescended to make it public.

Charged by M. the President of the archæological section to examine the demand of M. Henszlmann, I submit to you the results I have obtained from the communication of his long labours.

* * * M. Henszlmann demonstrates simultaneously by geometry, arithmetic, and algebra, that from the highest Grecian antiquity down to the end of the 15th century, architects, taking for a basis the fundamental dimensions of the edifice they were about to build, established upon that line an increasing and decreasing scale of proportion, constructed after a mathematical formula which was slightly modified in the Middle Ages; that they submitted to this scale all the portions of the building, whether large or small, at their wish, and without constraining in any way their taste and imagination; that it was merely a rule to which they submitted both mass and details in order that harmonic relations should subsist between them.

The artist who was bolder in his invention and more skilful than his predecessors in the arts of construction, arrived at more slender proportions, as seen in the Parthenon or the Sanite Chapelle of Paris; it was then the nicer and finer graduations of his proportional scale which guided him, but the mathematical harmony was not altered by that, for as a musical composer remains obedient to the laws of acoustical harmony, whether he raises or depresses the pitch of his composition, so the architectural conception, not less free, would be submitted to an analogous law which guarded it from the digressions of an unregulated imagination.

To each of the increasing or decreasing divisions of the geometrical scale established by the artist, corresponded a series of figures, forming in some sort octaves, falling and rising like those of a keyboard; he found in the *ensemble* of these numerical series, or in their combinations, all the measures needful to the success of his conception, just as a musician, having on an instrument all the notes and their various relations, seeks the effect he desires to produce, and deduces from their mutual relations the harmony of his theme. It is an analogous law which M. Chevreul has discovered in the harmonic relations of colour. After examining the work of the discoverer as a whole, I passed to its analysis; with compass and pen I verified the geometrical and numerical scales of most parts of the buildings, of which the plans, façades, and mouldings compose his rich collection of drawings: in all I have found the perfect harmony which he announces. Desirous of pushing my experiments still further, I procured drawings on a large scale, from buildings unknown to Mr. Henszlmann, and of Roman and Gothic periods. Forming then for myself the scales according to his theory, I found all the members of these various buildings correspond precisely to the divisions without the smallest geometrical fraction. I found, besides, in applying the method, that it furnishes a mathematical means for detecting either the changes in the plan of a building after its commencement, or alterations by another artist, modifications which sometimes are inappreciable by the eye, but become evident on application of the harmonic scales. This theory thus facilitates the study of the chronological comparison of monuments, of schools, or of diverse nationalities; and from the application made hitherto by the discoverer, it results that France plays the chief part in the arts of the Middle Ages. * * * The discovery of M. Henszlmann enabling one to distinguish immediately an original construction from a modern imitation, or even from an alteration of ancient date, it would become easy to restore a dilapidated edifice to its original harmony. * * * The work of M. Henszlmann is ready to be published; it is conceived that it would be desirable to publish it, for the sake of both theoretical and practical architecture. The archæological section will doubtless join us in requesting M. the Minister to encourage warmly a publication which would throw so much light upon the study of art, and of which the consequences would be so important for the country where it might be undertaken."

This is strong encomium on M. Lenoir's part, but he warms with his subject to a yet more startling result of approbation. He concludes his official report to his official department as follows:—

"I find in the 25th chapter of Exodus these words, 'The Lord spake unto Moses and said, Speak unto the children of Israel that they bring me an offering.....and let them make me a sanctuary that I may dwell among them, according to all that I show thee after the pattern of the tabernacle.'

In the 26th chapter follows the complete description of the tabernacle; and the last verse of the preceding chapter is thus expressed, 'And look that thou make them after their pattern which was showed thee in the mount.' Farther on, in the Chronicles, David is seen giving to his son Solomon the plans and descriptions which he had received from God for building him a temple at Jerusalem. Now in the proportions and definite forms indicated by these various books of the Bible, one follows the elements of the harmonic system discovered by Mr. Henszlmann. Did Moses in making the tabernacle rest upon a revelation? The Greeks profited by it, since we recognise the theory in their monuments. The ignorance of the Romans about it would indicate amongst the Greeks an initiation analogous to our northern freemasonry, strangers not being permitted to penetrate the secret.

Byzantine art would have served as the bond between Greek antiquity and Christianity in respect of this theory. We have already said what were its mediæval developments and perfections; and we must admit that the secret of the lodges, which could only be based on mathematical science, was connected with it, since by as many builders as they furnished to Europe the harmonic law was applied.

As to its revealed origin, I find some sort of proof of it in the ancient Christian tradition, which demanded that the churches should recal to some extent the temple of Solomon or the tabernacle; also in the consideration that the builder, bishops, and abbots, who gave themselves up to the practice of religious architecture, considered it as sacred and consecrated."

The foregoing extracts must suffice to represent the general character of the *Revue* for the year 1857; the papers of M. Beulé being reserved for separate consideration.

In another notice we may give some insight into last year's volume.

Meanwhile we may point out in the quotations already made the prevalence of that scientific tone and bent alluded to before as characteristic of French art. This is as remarkable from the "conspicuous absence" of appeals to nature, feeling, and imagination, as from the direct use of syllogistic reasoning and the frequent reference to modern science, modern progress, modern industry. Even the enthusiasm approaching absurdity which we have last quoted finds its occasion in a scientific system only, and the more regulated raptures of M. Beulé over classic art, we shall see hereafter similarly directed towards the machinery rather than the life of art.

The logic of the affections, so potent with all highly-wrought artistic temperaments is altogether left alone. No English book, or article, or paper about art, can now be taken up without an instant reference found, and constant deference paid to meaning, and truth, and earnestness. Even the cold heights of Academic lectures melt into the fertile eloquence of feeling under the rising sun of a new period. It is not so in France; distinctly it is not so in this review at present before us. Much, no doubt, in the latter case may be attributed to the decided tendencies of the editor, whose catholicity would be esteemed by many as latitudinarianism, or even indifference. But the *Revue* on the whole is a fair reflex of the national art, and France of to-day, the more she is studied or self-displayed, the more appears widely scientific and the less deeply artistic.

THE DECAY OF BUILDINGS.

THE HOUSES OF PARLIAMENT.

STRIVE as man may, let him work in the most massive manner, with the most enduring materials, his resistance to the sure decay of time is during a comparatively short period. Many mighty wonders of the world which in the glory of their erection men thought would prove imperishable, have crumbled into dust and left "not a rack behind." Of the great cities of the Old Testament history, only a few mounds of earth remain, in which lie a comparatively insignificant number of objects, which serve, however, to prove the truth of ancient sacred history, and to give some faint idea of the former magnificence of those now solitary spots.

The important works of antiquity which remain serve as marks by which we can compare the durability of other buildings. Since the probable time of the rearing of the great pyramids of Egypt, the proud cities of the Medes and Persians, and mighty Babylon, have fallen into dust. The scenes of the triumphs of the Greeks have passed away, and peoples wonderful for the extent of their civilization and skill, who were once powerful against the world in arms, have had successive rise and fall. In about half the time since the pyramids of Egypt were built, Imperial Rome has risen and its glory waned.

> "So generations in their course decay,
> So flourish these when those have passed away."

The humble and more ambitious memorials in the graveyards, the important monuments of royal and other personages, and matters of a more substantial description, raised to perpetuate great deeds or the names of eminent individuals, show how strong the inclination of human nature is to fight against time's destruction and oblivion. Considering this, it is to be wondered at that the materials of which some of our most important national works have been made should have been chosen with so little attention to their durable qualities. If we examine the tombs of the kings and queens, in Westminster Abbey, and other records elsewhere, the towers and tracery of some of our most beautiful cathedrals and churches, it is pitiful to see to what a great extent the rare work has perished, and how figures, niches, and foliage are converted by early decay into shapeless masses. In the olden time, when roads were bad, and the conveyance of stone from long distances was scarcely possible, it was necessary to use those quarries which lay in a convenient situation; and this has been the means of affording an opportunity of judging by dear experience of most of the varieties of British and some kinds of foreign stone. Look, for instance, at the crumbling condition of the exterior of the churches of Coventry; look at those portions of the cloisters of Westminster Abbey which have not been recently restored. Nearly all traces of architectural detail have mouldered away, and many of the upright shafts are worn to a thread. The exterior of Henry VII.'s Chapel has been once entirely re-cased since the time of its erection, and is again decaying. Many of the buildings at Oxford, not 300 years old, have as ruined an appearance as some of the temples of great antiquity which were reared more than five times as many years ago. If we look at buildings which have been erected at a comparatively recent date, it is painful to notice the commencement of decay. At the British Museum, a national structure scarcely completed, the surface is peeling off, and layer after layer will have fallen in the same way before a century has passed away. The effect is worse along the river front of the new Houses of Parliament. Without the decay can be arrested, the ornament which has been produced there at so much cost will speedily vanish.

If we examine the vast surface of St. Paul's cathedral, and some of the churches by Sir Christopher Wren in the metropolis, it will be seen that they have till the present well defied the weather. Parts are a little chafed, but generally over the whole surface of St. Paul's but little impression has been made, and nearly throughout, the jointings of the masonry are as close and square as if they had been completed yesterday. In many instances more durable materials have come into use in this country for sculptural and other purposes, but as regards the public buildings of the metropolis, there is certainly a need that, guided by the experience of the past, we should select for great purposes materials more lasting than those which have been generally brought into use. Great ignorance on the subject prevails.

In the House of Commons, on Saturday, when votes were being taken, Lord Fermoy called the attention of the committee to a large item,—

7,000*l.* odd—for indurating the stone of which the Houses of Parliament were built. He wanted to know what that really meant. His own belief was that, disguise the fact as they might, the whole structure had been built of rotten stone.

Mr. Fitzroy said, unfortunately, that was no new subject. From some cause or other,—either from the effects of the London atmosphere or from some inherent reason,—the stone of which the Houses were built indicated a tendency to decay. That was particularly the case with parts of the building more exposed to the frost and wet than others. In more sheltered situations it did not show the same signs of decay. Various means had been tried to arrest that unfortunate tendency,—one process, in particular, which had been invented by a Hungarian, who did not choose to inform the public of what the substance used by him was composed. A gentleman named Ransome had also been permitted to apply a process, well-known, to several parts of the building, and his (Mr. Ransome's) idea was that if that process were properly carried out, it would answer the end in view. The matter remained in doubt when he (Mr. Fitzroy) acceeded to the office he now held, and the question was put to the Treasury whether they would sanction a reference to some high scientific authority, with the view to ascertain, if possible, the cause of the decay, and some effectual remedy against the evil. The result had been a reference to Mr. Faraday, who with that high sense of generosity and honour which always distinguished him, said he could not think of acting professionally in the matter, or of accepting any remuneration, but that he would give the best opinion he could upon the subject. That gentleman spent some hours in examining the stone in different parts of the building, and as a result of his advice a portion of the building had been set apart under circumstances precisely similar for a trial of the processes of the two gentlemen whose names he (Mr. Fitzroy) had mentioned. Time alone, however, could decide the question; and it was under those circumstances that the Government had asked for the vote to which the noble lord (Fermoy) had taken exception.

WATER-GLASS AND ITS APPLICATIONS.

AMONGST the various notices which have appeared from time to time in our pages on the subject of water-glass, we have not omitted to inform our readers of Mr. Frederick Ransome's processes. That gentleman now writes:—

The articles upon the subject of water-glass, by Dr. Fuchs, which have recently appeared, and the report of the commission of the French Government on the experiments of Professor Kuhlmann, would lead to the conclusion that the important subject of silicification and the various applications of soluble glass are comparatively unknown in this country, the more so as no reference whatever is made, either in the report, or the articles in question, to English discoveries and manufactures dependent upon the same principles.

As the inventor and patentee of various processes, in every respect analogous and almost identical with those suggested in the articles alluded to—as having, during the last fifteen years, occupied myself exclusively in modifying and improving the manufacture, and applying successfully on a large scale, the soluble glass to various useful purposes previously unknown in this country, I may be allowed to claim attention to the great injustice of bringing so prominently forward as a novelty the history and results of experiments conducted by foreign chemists in the manufacture and use of a material for which *I received the Telford medal of the Institution of Civil Engineers, in* 1848; *a prize medal from the Jury of the Great Exhibition in* 1851; and which I have been manufacturing at the rate of many tons per week at my own works, and more lately at those of the Patent Silicious Stone Company, at Ipswich.

My own attention was first directed to the subject in the year 1844, when carrying out a series of experiments with a view to the production of an artificial stone suitable for grinding, building, and ornamental purposes, which should possess all the advantages, and be free from many of the defects of the natural stones hitherto in use.

I was not at that time aware of the memoirs published by Dr. Fuchs, in Kastner's "Archio," for 1825; nor of the further researches either by him or Professor Kuhlmann; nor have I yet learned that either of those gentlemen attempted, or even contemplated, the manufacture of stone by such process; but, on the other hand, I may be allowed to state that I secured a patent in France for this very process in the year 1845.

In the year 1845, I obtained letters patent in England, Scotland, and Ireland, for the application of a soluble silicate for combining small coal into blocks, and for preserving wood from fire and decay.

In the year 1854, and still without any knowledge of the work done by Dr. Fuchs or Professor Kuhlmann, I invented a process for "preparing oxides and carbonates of lead or zinc," "and carbonates or sulphates of barytes with soluble silica," either with or without being "mixed with colouring or other matter," and enrolled a provisional specification, intending to complete the patent for the same, but owing to an attack of illness, I was prevented from obtaining this protection.

In the year 1855, I claimed and obtained a patent for further improvements in the manufacture of artificial stone; and, lastly, in 1856, I invented and patented a process for preserving natural or artificial stone and other building materials, and in rendering them less liable to decay.

The application of this process, which I also patented in France, in March, 1857, has, in every instance in which I have operated, been attended with the most satisfactory results; decay has been prevented in the softest and most friable stones, and where disintegration had commenced prior to its use, this has been at once arrested, and the same stones rendered perfectly hard and durable.

THE PHYSICAL CONDITION OF THE BRITISH SOLDIER.

LAST week the commander-in-chief reviewed, in Hyde-park, the available strength of the Foot Guards stationed in the metropolis. The troops took up their positions shortly after nine o'clock in the morning, and went through the regular evolutions of a field-day, with rapidity and precision. The report says, that owing to the great heat, the men appeared much fatigued, and several were obliged to fall out from being overpowered. Although the heat on the day mentioned was great, still it must be admitted that there must be something wrong either in the physical condition, or the nature of the accoutrements, of the flower of the British army. If an ordinary review at home knocks up a number of these strongly framed men, many will ask what would be the consequences in scenes which would require far more energy and endurance. Our readers know the ill condition of the metropolitan barracks a short time ago, and how utterly impossible it was in those places to preserve the health and strength of the men; and it is a sad fact, that but little beneficial change has been yet made. There are other circumstances which tend to the deterioration of the troops lodged in the metropolis. The men in many instances have not that sufficient amount of education that would cause them to take an interest in intellectual pursuits, and they have no opportunity of devoting their attention to gardening or other occupations, which are both useful and health-giving: the consequence is, that some fall into the habits of dissipation, which are injurious to health.

The dress of the Foot Guards being the same in summer as in the cold of winter, seems to most civilians to be ridiculous; those closed and thickly-padded cloth coats, the bear's skin caps, and other portions of the guardsmen's dress, are so contrived as to be utterly unfitted for the heat of summer, or a hot climate. It should not be forgotten that in the Crimean war the guards fell out of the ranks in large numbers during a march of a few miles, and numbers died from fatigue. It seems that the usual dress of the guards for summer use is about as unfit as a suit of armour of Henry VIII.'s reign would be on ordinary occasions. Something is to be attributed to the insufficiency of gymnastic training, and it is well known that with practice, it is no hardship for a man to walk without inconvenience twenty miles and more each day.

The Roman soldiers were almost as remarkable for their ability to construct defensive and other works as they were brave and skilful with their weapons. Why should not the British soldier be similarly trained? A large proportion of the body of our army have been brought up to agricultural and other pursuits; they have been accustomed to active and industrious habits, and it is in consequence of the want of employment, that they are tempted into those injurious habits which are complained of.

It troubles the minds of thinking men, that while the nations on the continent have almost impregnable fortresses, constructed according to the best and most scientific principles, in England we have no stronghold which, in case of invasion, could be made good against an invading host, and afford the opportunity of preserving military stores, and, if necessary, recruiting fresh strength.

Although gardens for soldiers cannot be provided in the metropolis, there are many other situations in which this provision could be easily made. The British soldiers have never lacked bravery, and this quality will be improved by raising their mental condition—by the better arrangement of our barracks—by attention to athletic exercises—by reform in the costume—and by placing within the means of our soldiers healthy and harmless amusements.

THE MUD BANKS OF THE THAMES.

ALLOW me to express myself obliged by your excellent article on the "Thames mud banks and embankments," in your last number. Reading that article has induced me roughly to lay before you a little of my own experience on the subject. I think it will help to verify much which you have stated and suggested. I only wish that I had better notes on the subject.

Nine or ten years ago, not in any way connected with the Sewers Commission, I was engaged in taking the dimensions and levels of all the sewers discharging into the Thames between Chelsea, or say Wandsworth, and Woolwich. Every inch of the river bank between these two places, on both sides of the water, I believe I traversed, and in the performance of the duty I was engaged in, I of course noted the peculiarities of the shore, and everything connected with the discharge of the various sewage outlets. I have not been up the river with any eye, or any particular eye, I should say, to its examination, since that date, or at least for many years; but your sketches have so vividly brought to my mind the appearance of the two spots you refer to, that I see little change in the configuration of the mud shore has taken place since the date I speak of: the depth and offensiveness of the "matériel" have, doubtless, increased, but it appears to me that the line of current, if I may so term it, is exactly as it used to be. The projection shown at the end of the bight at Cremorne has, doubtless, a great deal to do with the accumulation there. I recollect that at a spot, say about a quarter of the distance between the Kensington canal and Battersea-bridge, a 12 or 14 foot rod was, at the time I speak of, easily thrust up to the head, in the black deposit, and all along the whole bank at this point, nothing less than some 4 or 5 feet of mud could be sounded: there may though be some peculiarity in the shore stratum underneath the mud here, which accounts for the great depth of soft deposit, for, if I recollect rightly, just above the point—Wandsworth way, at which your sketch (plan) terminates, and where the river shore takes a slight reverse curve, the bank is free from mud, and yet it is scarcely possible to support the weight of a man upon it. The deposit (opposite Cremorne) was not, at the time I refer to, offensive like that observed lower down the river,—naturally so, as there would be less deposit of sewage,—but consisted of an intensely black mud.

The next below Chelsea of any moment—before the embankment of the river at that part was executed—occurred, I think, between Chelsea Hospital entrance-stairs and the entrance to the Grosvenor Canal, where there was a break for a short distance, and then again it continued to the western end of the premises, which were, I think, termed "Smith's Distillery." Here again the deposit was very deep, especially in front of premises situate about half-way between the hospital and the present site of the Chelsea-bridge; and the embankment executed in this part does not encroach so far into the river as the low-water line of the mud bank did, by some distance, I think. Here, and close by the Grosvenor Canal, I have a remembrance of 5, 6, 7 feet of deposit, partaking, of course, of the same character as the deposit above Chelsea, but mixed with a larger amount of sewage matter; the more so, as this bank lay close below the outlet of the Ranelagh sewer. From this bank down to the one pourtrayed by you below Westminster—the worst, undoubtedly, on the river, and, curiously enough, occurring exactly on the spot where any remedial measures taken with respect to it would be of most service to the river and the public, if those measures took, as they must to be effective, the form of a solid embankment. I do not think that, on account of holes, any real account of the soundings from Whitehall-stairs to Adelphi-terrace has been or could be taken without a great deal of labour. I have seen bargemen unable to bottom it with their poles, and I have also seen more than one man in it up to his neck, and many in danger

of losing life from accidental falls into it. Here the "mixture" became remarkably offensive, and in many parts covered—that's not the word—swarmed—with the red entangled worms with specimens of which, magnified, lecturers are so fond of frightening timid females in their scientific harangues. As Southwark-bridge was neared—though not close to the bridge, but more in the vicinity of Queenhithe Dock, east and west—the accumulation, though not extending far into the river, was in many cases very deep and offensive.

It strikes me very forcibly that if all those who write and talk about the subject, commissioners of sewers and metropolitan boards, or what not, would just walk down the river banks at low water, they would form vastly different ideas upon the subject of the sewerage embanking, deodorizing, &c., to those which they are in the habit of expressing. Now they must be founded upon nothing better than theory, if they have not done so,—that I am quite confident of. Lime water, or any other deodorizing agent, to the extent it may be used for deodorizing the sewers, will never have the effect of doing away with the noxious effluvia, &c. dependent upon the immense mud deposits. Take the mud bank you sketch, and say there is a depth of four feet only of matter, such as it is composed of, and just think of that stewing, day after day, lying as it does, in a compact mass: then let some one suggest how much deodorizing matter it would take to counteract its effects, to say nothing of the wash of every tide: their computations would be far out, I fear, whatever they might be. The water, as you say, no doubt, contains the chief source of the annoyance, but it derives it, to a very large extent, I confidently believe, from the surface of these mud banks, as every flow gathers the noxious particles from their surfaces, and holds them in solution, and every ebb causes all this accumulation to traverse the length of the river, the whole mass, mixed up together in its course by the run of tide, moving of steam-boats, &c., and thus exposed to the air and influence of the sun, and just the very best course that under any circumstances could be pursued, even by art, to create miasma, out of such materials: the receding tide leaves the banks with a fresh layer of matter—wet—to be "stewed up" into material for the next tide, and so we go on. When it is really seen, and clearly seen, what a state the river has been permitted to get into, it is a serious matter, without exaggeration, simply because it must get much worse before the proper remedy can be effected, that is, before sufficient time can have elapsed to allow of works being carried out. It is now '59, and you can remember, as well as myself, quite as much being talked about as to "something being done" as a remedy in '49 as now; and I believe it to be as it at present stands quite a query as to whether '69 will not find "those who know all about it" still *talking* on the subject. J. S.

"VENUS GUIDING ÆNEAS AND THE TROJANS TO THE LATIN SHORE."

THIS is the title of a noticeable picture now in London, by Mr. Page, an American painter, who has been residing for some years in Rome. Mr. Page has treated the subject after the traditions of Virgil and other classic poets, introducing as many of the attributes of Venus as he was *historically* warranted in doing, on the authority of the best poets. Venus was the mother and patroness of Italy, as well as the goddess of beauty and love, hence this picture might almost be called the *Discovery of Italy*. She was born of the foam of the sea, and poets all unite in representing the sea, as well as the air, as perfectly calm in her presence. Though she lent her vesture to Juno, she never parted with the bright pearl which Vulcan gave her. The artist uses this, and has not forgotten the tradition of her golden hair and light blue eyes. The goddess is represented as of life size, standing or sailing in a shell drawn by her doves, and propelled by two wingless cupids, with the galleys of Æneas following in the distance. She is seen near at hand. As the sea and the sky are as serene and still as when Agamemnon sighed for Iphigenia in Aulis, the artist has ingeniously contrived to give considerable action to the figure by balancing her in an enormous shell, which is just being turned towards the land (Italy) on her right by the touch of one of the Cupids on the opposite side. Mr. Page has shown some boldness in departing from the beaten track, and encountering the difficulties of action. The famous Venus of Titian in the palace of Uffiggi in Florence, as well as almost all other pictures, represent the goddess as in repose, or nearly so. In a word, the artist has aimed at originality and high art, and has produced a work of art of no ordinary character.

The picture is in his studio, 74, Newman-street, Oxford-street, where any one who desires may see it by sending in his card, between the hours of two and six o'clock.

SITTING AND STANDING IN CHURCHES.

Standing in Church. A Leaning Stick.

IN your notice of the annual meeting of the Ecclesiological Society (No. 855, p. 427), the Rev. Mr. Jenner is reported to have made the following observation:—"The summary of the arguments in favour of seats might, he believed, be thus summed up: it would be best, he thought, to have no seats at all: the next best thing was to have chairs; and the worst of all would be to have benches." I would venture to suggest an intermediate contrivance between the "no seat at all" and the chair, and that is the contrivance which Raffaelle, in the cartoon of Paul preaching at Athens, has put into the hands of one of the listeners in the crowd on the Areopagus: it is a staff in the form of a crutch, and admirably adapted for leaning upon. Similar cross-handled staves are still in use in the Coptic Cathedral at Cairo, where they are placed in the body of the church for the accommodation of the laity. The circumstance of this being a custom with the Egyptian Christians, and probably derived from a remote antiquity, would appear to afford a very satisfactory elucidation of the allusion, in St. Paul's Epistle to the Hebrews (xi. 21), to the passage in Genesis (xlvii. 31).

There is in the Leyden Egyptian Museum a fragment of an ancient stick of the kind described. JOSEPH BONOMI.

THE OLD AND THE NEW BRITISH MUSEUM.

CONTRASTS are useful in enabling us to judge of our present strength and amount of progress. Amongst the most remarkable of these instances is the advance of our great national Museum. In 1784, William Hutton, the famous bookseller and historian, of Birmingham, visited the metropolis, and gives the following account of a visit to the British Museum:—"I was given to understand that the door, contrary to other doors, would not open with a silver key—that interest must be made some time before, and admission granted by a ticket for a future day. This mode seemed totally to exclude me. As I did not know a right way, I was determined to pursue a wrong, which probably might lead me into a right. By good fortune I stumbled upon a person possessed of a ticket for the next day, which he valued less than two shillings. We struck a bargain in a moment, and were both pleased."

On the 7th of December of the above year Hutton, with nine others (all strangers to him), assembled at the old Museum. He says: "We began to move pretty fast, when I asked, with some surprise, whether there were none to inform us what were the curiosities as we went on. A tall young man in person, who seemed to be our conductor, replied, with some warmth, 'What! would you have me tell you everything in the Museum?—how is it possible? Besides, are not the names written upon many of them?' I was too much humbled by this reply to utter another word. The company seemed influenced: they made haste, and were silent: no voice was heard but in whispers. If a man pass two minutes in a room in which are a thousand things to demand his attention, he cannot find time to bestow a glance on each. When our leader opens the door of another apartment, the silent language of that action is 'Come along!' If I see wonders which I do not understand, they are no wonders to me. Should a piece of withered paper lie on the floor, I should without regard shuffle it from under my feet; but if I am told it is a letter written by Edward VI. that information sets a value upon the piece: it becomes a choice *morceau* of antiquity, and I seize it with rapture. The history must go altogether: if one is wanting, the other is of little value. I considered myself in the midst of a rich entertainment, consisting of ten thousand rarities; but, like Tantalus, I could not taste one. It grieved me to think how much I lost for want of a little information. In about thirty minutes we finished our silent journey through this princely mansion, which would well have taken thirty days! I went out much as wise as I went in; but with severe reflections that, for fear of losing my chance, I had that morning abruptly torn myself from three gentlemen with whom I was engaged in an interesting conversation; had lost my breakfast; got wet to the skin; spent half-a-crown in coach-hire; paid two shillings for a ticket; been hackneyed through the rooms with violence; had lost the little share of good humour I had brought in; and came away completely disappointed."

The editor of Hutton's Life remarks that the old regulations at the British Museum seemed expressly calculated to create disgust, and to exclude as many persons as possible. When it was first opened the trustees published "Statutes and Rules relating to the Inspection and Use of the British Museum." Among other things laid down were:—1st. That such studious and curious persons as were desirous to see the Museum must, in the first place, make an application in writing to the porter, stating their condition, place of abode, &c.; that they must call another day for their tickets, and then go a third day to see the sight. 2nd. That no more then ten tickets should be delivered out for each hour of admittance, and no person or persons be allowed to see anything without being attended by the under librarian, or under assistant. 3rd. That visitors should be conducted in regular order and succession through all the departments of the establishment, and not be allowed more than three hours to examine the whole, but depart when notice is given by ringing a bell [this bell, it appears, did great duty, for besides ringing people out, it rang them from one department to another]. 4th. That children on no account be admitted into the Museum.

At all events we have improved in Great Russell-street.

SANITARY PAMPHLETS.

IN the report for 1858 on the sanitary condition of the parish of St. Mary, Islington, by Dr. Ballard, the medical officer of health, there are some valuable statistics in regard to diphtheria, from which it appears that from January, 1858, to the close of the first quarter of 1859, there were 80 fatal cases of epidemic sore-throat, most of them being attended with the peculiar exudation in the interior of the throat which has been regarded as the characteristic sign of true diphtheria; so that it was a mistake to imagine that most or many of these cases were not the true diphtheria. It appears that diphtheria attacks the middle and comfortable classes of the population, rather than those of the lower ranks in life. Scarlet fever and diphtheria do not appear to be mutually protective against each other, in Dr. Ballard's opinion, as gathered from the statistics of his parish. Other forms of sore-throat also prevailed during the period of the epidemic. Diphtheria is considered from the statistics of the disease in this parish to be contagious, and the reporter impresses on all the necessity of isolating the sick persons from the healthy in cases of epidemic sore-throat. In more than half the houses examined where such cases occurred, there was some defect or other in the sanitary arrangements or surrounding conditions of the patient. In the greater number of houses thus deficient, the fault was discovered in the state of the drainage, bearing out our own statements. The subject of ventilation in the sleeping apartments also

ought carefully to be investigated in all such cases. We have known of instances in which virulent sore-throat of long standing was cured by the mere removal from a close sleeping-room to one better ventilated at all times. None are more apt to shut themselves up in "snug" and comfortable sleeping-rooms, with curtains drawn, and even chimneys stuffed up or papered over, than "the middle and comfortable classes," and this may be one of the main causes of their greater liability to such epidemics. In another pamphlet which we have here occasion to notice, namely, the "Third Annual Report of the Medical Officer of Health to the Vestry of St. James's, Westminster" (Dr. Lankester), the subject of defective ventilation is prominently brought under notice. "In connection with the deficient drainage of the better class of houses," says this officer, "I would espccially refer to their frequent deficient ventilation. The fear of a draught is alike the bane of rich and poor. Windows are not only not opened, but they are not made to open. Many windows have the top sash immovable, the letting down of which is the only efficient way of ventilating the room at all. The water-closets are frequently placed in positions where ventilation is next to impossible; and many of them, even in good houses, are disgustingly small, damp, and noisome. These are some of the causes which, amongst even the wealthier classes of society, produce direct attacks of disease, or by their constant action on the system, *predispose it to succumb to the action of poisons from without.*" We may here afford a hint to those who sleep in rooms next the roof, and are anxious to improve defective ventilation. The ceilings of two such rooms, the writer of these notes lately had carved neatly out in several places, with a round disc in the centre, and oblong cuts at the corners, till the lathing was reached, which was left so as to form very good gratings, opening into the interior of the roof, which, being abundantly open to the air, both between the couplings at the ridge, and between the slates, afforded a complete system of ventilation, and entirely removed the closeness which existed every morning, notwithstanding even open windows and fireplaces. From Dr. Lankester's report, it appears, that while the average deaths for ten years previous to 1856 in St. James's were 775, in 1858 they were only 666. In the intervening years they were intermediate, or 682 and 712, so that, thus and otherwise, it pretty clearly appears, that in this parish there is now a decided saving of life from sanitary agencies.——A series of "Sanitary Tracts" is being issued under the sanction of the Metropolitan Association of Medical Officers of Health. No. 1 is an important paper on Vaccination (and small pox), by Dr. Ballard, Medical Officer of Health for Islington. The advantages derivable from vaccination are forcibly urged in this paper, and objections to it satisfactorily answered.

PALACE OF THE PEOPLE, MUSWELL-HILL.

THIS undertaking was, we may almost say, inaugurated, on Saturday last, when, the ground having been staked out, and its chief points marked by flag-staffs, a party of about 350 ladies and gentlemen assembled on the site at the invitation of the promoters, and in order to meet Lord Brougham and other patrons and friends of the enterprise. Amongst the company were Lord Talbot de Malahide, Mr. Alderman Sidney, Sir Cusack P. Roney, Sir C. Fox, Mr. Bowley, general manager of the Crystal Palace, Mr. R. W. Kennard, M.P. Mr. Masterman, Mr. Geo. Cruikshank, Professor Donaldson, Mr. Gruneison, and other friends of art and general education.

The weather was delightful throughout the day, and by a pleasant railway trip from King's-cross to Wood-green, and a walk across the fields, the visitors reached a tent erected on the site of the People's Palace.

Conducted by Sir Charles Fox, Lord Brougham inspected the site, and was afterwards addressed by Mr. Masterman, who read the prospectus of the company, which is now termed "The Great Northern Palace Company (Limited)," with a share capital of 500,000*l.* in 2*l.* shares, and 250,000*l.* in debentures. The prospectus describes the leading features of the intended building, its advantages for recreative purposes to the dense population of the northern suburbs, its educational objects (with a lecture-room for 10,000 persons), and the beauty of the surrounding scenery.

Lord Brougham expressed his gratification with all that he had seen, and considered the success of the People's Palace perfectly assured. Its first object was to afford relaxation, both mental and physical, to the working classses, and to which they had a moral right, if, by their daily labour, they had first earned the time for it,—if it was innocent in its nature, and such as not to interfere with the rights of others,—and at the same time so consistent with prudence as not to be injurious to themselves. Believing that these principles would be carried out in the People's Palace, he had consented to place himself at the head of the educational department, for which a special fund would be provided, and was proposed to be applied, in a manner which had his entire approval, particularly in the plan of awarding prizes for proficiency in history, geography, astronomy, geology, and other branches of science.

The company then partook of luncheon, Mr. Hughes (of the firm of Masterman, Hughes, and Co.) presiding as chairman in the absence of the Lord Mayor, who was prevented by illness from attending the meeting. After the formal toasts, including "The House of Lords," acknowledged by Lord Talbot de Malahide, and "The House of Commons," replied to by Mr. Kennard, M.P. the chairman proposed "The Health of Lord Brougham," which, it is needless to say, was most enthusiastically received. His lordship replied in a comprehensive and animated speech, and gave "The Health of the Chairman," coupled with that of the Lord Mayor.

The toast of "Art, Science, and Literature," was acknowledged for its several departments by Mr. George Cruikshank, Professor Donaldson, and Mr. Godwin. Mr. Cruikshank dwelt on the educational aspect of the undertaking, and Lord Brougham's exertions in its cause. Professor Donaldson expressed his belief that the magic wand of Mr. Owen Jones might even enable him to enhance the natural beauty of the site of the Palace; and Mr. Godwin gave cordial good wishes for the success of the enterprise, because it promised to provide healthy and elevating recreation for the working classes, as well as education, which had hitherto been somewhat neglected in such undertakings.

"Success to the Palace of the People," acknowledged by Sir Cusack Roney on behalf of the patrons, was the next toast, and then the health of Mr. Owen Jones was warmly responded to. In reply, that gentleman referred to the exertions of Sir Charles Fox in promoting the practical details of the undertaking, which he hoped, when realized, would have a successful career as a twin brother of the Crystal Palace at Sydenham. Other complimentary speeches and the toast of "The Ladies" brought the proceedings of the day to a close.

Mr. George Stevens, the (at present honorary) secretary to the company, contributed effectively to the success of the arrangements for the day.

ON THE TENSILE AND COMPRESSIVE STRENGTH OF VARIOUS KINDS OF GLASS.

AT a recent meeting of the Royal Society a communication was read "On the Resistance of Glass Globes and Cylinders to collapse from external pressure, and on the Tensile and Compressive Strength of various kinds of Glass," by William Fairbairn and T. Tate.

The researches contained in this paper are in continuance of those upon the Resistance of Wrought-Iron Tubes to collapse, which have been published in the "Philosophical Transactions" for 1858. The results arrived at in these experiments were so important as to suggest further inquiry under the same conditions of rupture with other materials; and glass was selected, not only as differing widely in its physical properties from wrought iron, and hence well fitted to extend our knowledge of the laws of collapse, but because our acquaintance with its strength in the various forms in which it is employed in the arts and in scientific research is very limited. To arrive at satisfactory conclusions, the experiments on this material were extended so as to embrace the direct tenacity, the resistance to compression, and the resistance to bursting, as well as the resistance to collapse.

The glass experimented upon was of three kinds:—

	Specific gravity.
Best Flint Glass	3·0782
Common Green Glass	2·5284
Extra White Crown Glass	2·4504

Tenacity of Glass.—For reasons detailed by the authors, the experiments upon the direct tenacity of glass made by tearing specimens asunder are less satisfactory than those in the rest of the paper; and it is argued that more reliance is to be placed upon the tenacity deduced from the experiments on the resistance of globes to bursting in which water-pressure was employed, than upon the tenacity obtained directly by tearing specimens asunder. The results obtained by the latter method give the following mean results:—

	Tenacity per square inch in pounds.
Flint Glass	2413
Green Glass	2896
Crown Glass	2346

Resistance of Glass to Crushing.—The experiments in this section were made upon small cylinders and cubes of glass crushed between parallel steel surfaces by means of a lever. The cylinders were cut of the required length from rods drawn to the required diameter, when molten, and then annealed, in this way retaining the exterior and first cooled skin of glass. The cubes were cut from much larger portions, and were in consequence probably in a less perfect condition as regards annealing. Hence, as might have been anticipated, the results upon the two classes of specimens, although consistent in each case, differ widely from one another.

The mean compressive resistance of the cylinders, varying in height from 1 to 2 inches, and about 0·75 inch in diameter, is given in the following table:—

Description of Glass.	Height of Cylinder in Inches.	Mean Crushing-weight per Square Inch. In Pounds.	Mean Crushing-weight per Square Inch. In Tons.	Mean Crushing-weight per Square Inch. In Pounds.	Mean Crushing-weight per Square Inch. In Tons.
Flint Glass	1	29,168	13·021	37,582	12·313
	1·5	20,775	9·274		
	2·0	32,803	14·644		
Green Glass	1	22,583	10·081	31,876	14·227
	1·5	35,029	15·628		
	2·0	38,105	16·971		
Crown Glass	1·0	23,181	10·348	31,003	13·840
	1·5	38,825	17·332		

The specimens were crushed almost to powder by the violence of the concussion: it appeared, however, that the fracture occurred in vertical planes, splitting up the specimen in all directions. Cracks were noticed to form some time before the specimen finally gave way; then these rapidly increased in number, splitting the glass into innumerable prisms, which finally bent or broke, and the specimen was destroyed.

The following table gives the results of the experiments upon the cut cubes of glass:—

	Mean Resistance to Crushing. In Pounds.	Mean Resistance to Crushing. In Tons.
Flint Glass	13,130	6·861
Green Glass	20,206	9·010
Crown Glass	21,867	9·762

Hence, comparing the results on cylinders with those on cubes, we find a mean superiority in the former case in the ratio of 1·6 : 1, due to the more perfect annealing of the glass.

NOTES IN NEW YORK.

THE Central Park, popularly designated the cynosure of the future glory of New York, extends over 760 acres—being about 300 acres larger than Hyde Park—and is in the shape of a rhomboid, a mile and three quarters in one direction, and a mile and a half in the other. The cost is about 5,000,000 dollars, although still in a very unfinished state; and it is situated about four miles from the City Hall. Blasting operations are being proceeded with at present, to reduce inequalities. A species of natural bridge is preserved across a stream which runs through, and will feed a skating pond from the great Croton reservoir, which is centrally placed, and is an object of considerable interest.

In the city, avenues are springing up, lined, not with houses, but with palaces. An American journal says, "Neither London nor Paris, with all the accumulations of the wealth of a thousand years, can show such a street as the Fifth Avenue," and that "when the Central Park is surrounded by dwellings, all the historic splendours of Babylon and Nineveh will pale before the dazzling wealth of this great city." One of the most conspicuous features is the new hotel in Madison-square, with its marble front, and wings of two stories. It is pentagonal in plan, has a large square with shrubbery in front, and is locally considered superior (?) to the Hotel du Louvre in Paris. The frontage is somewhere about 206 feet on the Fifth Avenue and Broadway, and the flanks on Twenty Third and Twenty Fourth-streets are 202 feet deep. Accommodation is provided for 800 visitors, or more if necessary. A *vertical railway*, worked by steam from the heating apparatus, conveys the inmates, as also luggage, &c., from the first

to the several floors, without the trouble of ascent and descent by staircases. The proprietor invested 1,000,000 dollars in the premises, and the lessee expended 350,000 dollars in the furniture and fittings. The suburb Brooklyn, containing a population of 225,000 people, progresses wonderfully: it is very elevated, and the magnificent harbour lies at its base. Brown sandstone houses are the rage among the new rich men. The City Hall, a structure of white marble, is said to be a beautiful building, and was only recently completed, the foundations being laid in 1836. A large building called the Brooklyn Tabernacle, has been erected for a young and favourite divine, the Rev. W. A. Bartlett, at a cost of 6,000 dollars, to accommodate 2,000 hearers. Several other buildings are in course of erection, and others projected, which, when we learn particulars, shall be duly chronicled.

IMPROVEMENTS IN PUBLIC PARKS AND GARDENS, ROADS, &c.

IN the House of Commons, last week, while the supplies were being voted in committee, Sir Joseph Paxton took occasion, on a vote of 73,000*l.* for public parks and gardens, to object to the great increase that had annually taken place under this head. What he complained of was, that in 1855 an attempt was made to convert these gardens from their original botanical purposes to those of a popular flower garden, under the administration of Lord Llanover and Sir W. Hooker, thereby greatly increasing the expenditure, and competing with the Crystal Palace! Why, too, above all things, should they be open on Sundays and the Crystal Palace not? The museum that had been erected at Kew was unworthy of the architectural taste of this country, and resembled more than anything a third-rate lodging-house. They were asked to expend 30,000*l.* for a new conservatory, but he believed that a glass structure sufficient for the purpose might be erected at half the expense. As regarded Hyde-park, there was a report from Mr. Page that 30,000*l.* would be required for altering and improving the Serpentine, and it required it; but he totally dissented from the proposal to put an island in the middle. He objected to the system now constantly going on of "gardenizing" the parks, and of filling them with tawdry flowers, instead of leaving them in all the simplicity of grass and green trees. Sir Joseph then urged upon the Commissioners of Works the necessity of improving the communications through the parks. Alluding particularly to St. James's-park, he said that within a short period there would be a railway station in Victoria-street, only a few hundred yards from Buckingham Palace, in which case it was not reasonable to suppose that the communication by the side of Marlborough House and Buckingham Palace would be sufficient for the accommodation of the public. He believed, therefore, that they would be obliged to adopt the suggestion which had been made some years ago, and cross the park by means of a road and bridge to Victoria-street direct, with a branch to Buckingham Palace and another to the Houses of Parliament. In Hyde-park also, improved communication was wanting. From the Westbourne-terrace district to the Kensington-gore district a person who was not in a private carriage must go all round by Park-lane and Hyde-park-corner; and he was satisfied that a good road might be made, without being an eyesore, somewhere between Hyde-park and Kensington-gardens. He next complained of the design of Battersea and Victoria parks. He hoped the Chief Commissioner of Works would take proper advice, and place such persons only in the management of the parks as were properly qualified for the office. Lord J. Manners said that, although his hon. friend began by complaining of the increased expenditure on the metropolitan parks, he had ended by proposing schemes which, if sanctioned, would involve an expenditure of at least 100,000*l.* As to the purification of the Serpentine, he put the matter in the hands of Mr. Page, and the scheme that gentleman had placed before the house he (Lord J. Manners) had reason to hope would be permanently successful. With respect to Kew, he fancied that most gentlemen in the house would be extremely vexed if the flower-beds were abolished. With regard to the proposed conservatory at Kew, this work he had put into the hands of Mr. Decimus Burton, and Battersea and Victoria parks at present were under the management of men who were perfectly competent. Year after year greater numbers of people frequented the parks; far more public attention was directed to them; hardly a day elapsed without some recommendation to increase their beauty, or the enjoyment of the people in them, and he was quite satisfied that no one could fill the situation which he had lately held without feeling an anxious desire to promote, as far as possible, the comfort, the convenience, and the recreation of the toiling masses of this metropolis, for whose benefit, after all, these parks were chiefly maintained.

BUILDERS, LOOK TO YOUR MEASURE.

SIR,—It has long been known that an American flour-cask, which only holds 3¼ bushels of flour, is supposed to contain 5 bushels of cement; also that a cart only capable of containing 1½ cubic yard of earth will easily carry 2 cubic yards of lime. This the trade have known and assented to, but until lately I did not know that the practice in the Island of Portland, as exemplified by certain quarry owners, is to mark the blocks (with a deficiency equal in many cases to ten per cent.) in excess of the actual quantity. Very recently I made this discovery, and on requesting the manager to re-measure the cargo, I was not very politely informed that they could not undertake to re-measure; and that for the future, if I did not think fit to take the stone as marked, they must decline doing business with me.

How long will the building trade suffer itself to be thus imposed upon? Can any person with certainty calculate the cost of his materials when he cannot know to what extent he will be called upon to pay for that he never receives? A builders' trade protection society might and would, in a few months, work wonders. At present, no honest dealer has a chance with a set of persons who drive a business by professing to sell low, when in fact the measure given makes the article much dearer. I could give the names of several such, and am ready to join any builders to devise means to stop this evil.

Mile End. JAMES KNIGHT.

SCHOOL-BUILDING NEWS.

Coggeshall.—The new school-house at Coggeshall, built for Sir Robert Hitcham's Charity, has been opened. The cost of the building (the plan and superintendence of which were by Mr. T. Clarke), will exceed 1,000*l.* and the work was carried out by Mr. J. Brown, of Bocking.

Shrewsbury. — The foundation stone of St. Chad's new parochial schools has been laid by the Mayor. The site is at the end of Bridge-street. The school will be of two stories, the lower for the boys, the upper for the girls. Each is 65 feet by 18 feet, with two class-rooms, 18 feet by 14 feet. The whole will accommodate 170 boys and as many girls. Near the approach to the girls' school a convenient house for the mistress is placed. At the end of the boys' school is also a residence for the master. Attached are playgrounds for each class. The building is Elizabethan, of pressed brick, with stone dressings, and ornamented gables and chimneys. The architect is Mr. Edward Haycock, and the contractor, Mr. Treasure, of Newport.

Wistanstow.—New schools have been opened here, according to the *Shrewsbury Chronicle*, the cost of erection being about 800*l.* The new building, which adjoins the old schools and the church, is Italian in style, and without ornamentation, economy being considered. The school-room is 67 feet by 18 feet; the class-room 18 feet by 12 feet. There is also a cloak and hat room, and a house for the schoolmaster and schoolmistress, the whole surmounted by a bell-turret. The architect was Mr. J. L. Randal, of Shrewsbury; and Mr. Oldham, of Leamington, was the builder.

Eastington (*Gloucestershire.*)—The new National Schools have been opened at Eastington. The group of buildings is situated near the church, upon a piece of land presented by the rector. They are of brick, with balk-stone dressings, and have a roofing of Broseley tiles. The entire cost is about 1,100*l.*

Pawlett (*Somerset*).—The Pawlett National School has been inaugurated. The building is part of the old farmhouse adjoining the churchyard, on the west side, and it is approached by a wicket, through what was originally the paved court, now a green sward. Like all ancient farmhouses, it is low-roofed, with walls of great thickness, and deep window recesses. The interior dimensions of the school-room are—length, 40 feet; breadth, 20 feet; height, 16 feet; and it has been fitted up by Mr. E. Jeboult, of Taunton, under the direction of Mr. H. Smith, the steward of the lord of the manor.

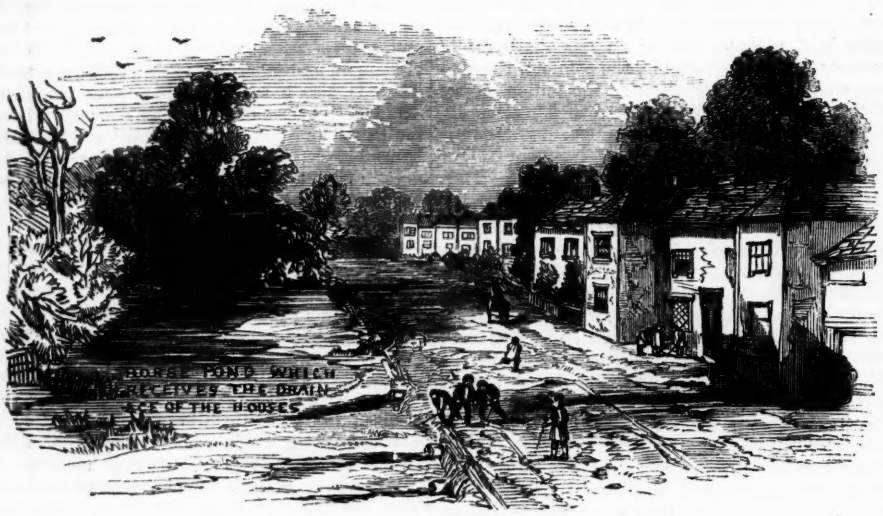
Brewood (*Staffordshire and Salop*).—The foundation-stone of new National Schools has been laid at Brewood. The school-buildings consist of a boys' school, capable of accommodating 100 boys; and a girls' school of the same size, with large class-room and other necessary buildings attached. There is also a master's house near the schools. The buildings are of the old English style, having mullioned and transomed windows and perforated barge boards, and are erected in brick, with stone dressings, quoins, &c. The several buildings have been designed by and under the superintendence of Mr. E. Banks, architect, Wolverhampton; and Mr. Godfrey, of Birmingham, is the builder.

Lancaster.—The Ripley Institute is making progress, although it will not be completed for three years yet. The estimated cost was 25,000*l.* which was paid out of the first dividends arising from a sum of 100,000*l.* given by the widow of Mr. Ripley, a native of Lancaster, in accordance with a desire of her late husband to erect an hospital for orphan children in Lancaster. The contract for the whole was taken by Mr. C. Blades, of Lancaster, builder, but the masonry was entrusted to Mr. C. Baynes, also of Lancaster. The building stands on the Ashton-road, about half a mile from the town-hall. It is intended for the education and maintenance of 300 orphan children, boys and girls. The style is that of the twelfth century, Early Pointed. The plan is somewhat in the form of the Roman capital letter E, with a side and two wings, and fronts the north-west, of three and four stories. The side between the wings is 195 feet in length. The wings on each side are 130 feet long, each four stories high (68 feet), and are terminated at the north-west extremities by houses—one for the schoolmaster on the boys' side, and the other for the schoolmistress on the girls' side. The material chosen for the exterior of the building is white sandstone, from adjacent quarries. The spaces between the hewn parts are filled with inserted rubble.

Bolton.—A National School-room and Church Service Room, of Gothic architecture, has just been completed at the top of Bolton-lane. They consist of a room intended for church service on Sundays and a national school during the week, with a dwelling for master and mistress. The whole is from the designs of Messrs. Mallinson and Healey, of Bradford. The site, valued at 150*l.* was the gift of W. H. Rawson, esq. of Mill House, near Halifax. Towards the building fund, amounting to nearly 1,000*l.* J. Atkinson Jowett, esq. presented 100*l.*

Dundee.—In 1850, Mr. John Morgan died at Edinburgh, leaving property to the value of nearly 100,000*l.* to endow a school for 100 boys in Dundee. The House of Lords has just decided in favour of the bequest. The funds have dwindled, under the kind care of "the law," to 82,000*l.*

Crieff. — Some thirty years ago, says the *Scotsman*, Mr. James Morrison, who was born in Muthill, Perthshire, and was for a considerable period a builder in Edinburgh, died and bequeathed a large sum to found and endow an educational establishment in his native district. The institution is intended to afford what may be termed a first-rate "middle-class" education at a very low fee. The trustees, on the list of whom are Sir William Gibson-Craig and Lord Advocate Moncreiff, procured plans and designs from Messrs. Peddie and Kinnear, architects; and these having been approved of, building operations will, it is expected, be commenced in a few weeks. A field a little to the north of the picturesquely-situated town of Crieff has been selected as the site. As the space acquired is upwards of ten acres in extent, there is ample provision for playgrounds. Architecturally, the proposed institution is a modification of the Scottish style of the end of the sixteenth century, with the chief features approaching the French type. In length, the edifice extends 180 feet, and is about 40 feet in depth. It is composed of a projecting central mass, with wings, the extremities of the wings projecting to a line with the centre. The centre is three stories in height, and is square in plan. It has a projecting high-pitched gable in front, which is finished with a bell-cot; the total height being nearly 80 feet. This front is broken up by circular turrets, one on each side, containing staircases leading to the library galleries, which have slated roofs, and a large oriel window. The part of the wings adjoining the centre of the edifice is two stories in height, and has two rows of windows. In the projecting wings the elevation terminates in high crow-stepped gables, from each of which stands out an oriel of two stories, finished with a sloping stone roof. Internally, the apartments comprise library galleries, eight class-rooms, and various other rooms suited to the establishment.



SWEETENING THE AIR OF THE COUNTRY.
A Village in Essex.

FRESH AIR IN THE COUNTRY.

"I AM going out of town for change of air. The wear and tear of London life, the foul Thames, the evil condition of neighbouring streets, are all against me here." Quite true. But take care where you go to, or you may jump out of the frying-pan into the fire. And what we said to our friend in particular, we say to our readers in general. Towns are becoming everywhere more and more crowded. In 1801 the rural population of Great Britain, amounted to 8,143,722: in 1851, this section of the population had amounted to 13,914,768, showing an increase, in fifty years, of 5,770,996, or 70· per cent. whereas the population of towns of upwards of 20,000 inhabitants, which was in 1801, 2,435,184, had risen in 1851, to 7,044,709, an increase of 4,609,525, or 189· per cent. This shows that in the course of half a century, the increase of the urban population in proportion to the suburban was about 2½ to 1, and these figures by no means indicate the full extent of the proportionate decrease of the rural part of the population.

Again, in the whole of the towns of Great Britain, in 1851, there were 5·2 persons to an acre, while in the country there were 5·3 acres to each person. In London there were 19,375 persons, and 2,509 houses to each square mile. In part of Middlesex, there were 34,389 persons, and 4,202 houses to the square mile. In Northumberland, there were only 154 persons, and 24 houses to each square mile; and in North Wales, 131 persons and 27 houses.

In 1801 there were in England and Wales 1,579,923 inhabited houses, 1,896,723 families, and 8,892,536 persons. In 1851 the inhabited houses had increased to 3,278,039, families to 3,712,290, and persons to 17,927,609. In 1801 4¾ persons occupied each house: in 1851 the number of persons occupying each house had increased to upwards of 5.

"In the towns of England centre all the literature, all the art, and all the science of modern civilization, which makes England pre-eminent amongst the nations. They are the most progressive, if not the most important, part of the nation. Their inhabitants, becoming daily more numerous and influential in the whole society, will most materially shape the future fate of Great Britain. This is not the adventitious result of any peculiar policy: it is natural and necessary. For help and protection man clings to man, and skill and power are much more social than individual."

When we consider this vast increase of the number of inhabited houses, which have very nearly been doubled during the last half century, that the population of England and Wales has more than doubled, and that the chief increase of the population is in the towns, the necessity for sanitary regulation, of an enlightened and sufficient nature, is evident, and the usefulness of getting away into the country is no less so. But simply "to go into the country" is not enough. The neighbourhood must be looked at, and circumstances considered. If you send your children to an ill-drained watering-place, and let them play half the day at the mouth of a drain on the beach, or to a damp farm-yard, with decomposing vegetable matter on all sides of them, and bad water to drink, the chances are that evil and not good will result. Pure air is the first necessity, and man does all he can to increase the difficulty of obtaining it. Dr. Angus Smith, who has devised means of learning the relative amount of decaying animal and vegetable matter existing in the air under different circumstances, found, as compared with the purest air he examined—that of Lake Lucerne,—that at the forest near Chamounix the amount of organic matter was double, evidently owing to the decay of the leaves; in North Lancashire, the same. In the fields near large towns, as London and Manchester, there is between nine and ten times as large a quantity as at Lucerne. In the purest parts of London there is double as much as in the adjacent country; although this is immediately reduced one-half by the purifying influence of a thunder storm. Over the putrid Thames, in the warm weather, there is double the amount of that in the purer parts of London, and four times as much as in the Highgate fields. Manchester is nearly as bad. In close dwelling-houses the air is still worse; and in open pigsties it is so charged with putrifying effluvia, or what may be truly termed animal stink, that there is absolutely eighty times the amount that is found in the pure air of Lake Lucerne.

If it be correct that, when respiration is performed naturally, there are about 18 respirations in one minute, 1,080 in the hour, and 25,920 in the 24 hours; and that by each respiration a pint of air is sent into the lungs, that is 18 pints in a minute, or in the hour more than two hogsheads, and in the 24 hours more than 57 hogsheads, the effect impurity may produce is evident.

When the body is in a state of health, there will be 72 pulsations of the heart in a minute. Every pulsation sends to the heart two ounces of blood. Thus 144 ounces are sent for purification to the lungs every minute. In one hour there are sent 450 pints; in 24 hours, nearly 11,000 pints. The blood performs a complete circuit in the system in 110 seconds. These figures show how great is the need for the air we breathe to be pure and wholesome.

Simple assertions of the evils to which people expose themselves in the country have little effect. A special instance, however, may have more. Our sketch shows part of a village in Essex where the houses drain into a large pond on the opposite side of the road. At the time of our visit it was sufficiently foul to produce a pestilence, and we were not surprised to learn that fever frequently visits the cottages, and that the prevailing odours are not those of Araby the blest.

Go into the country by all means for fresh air; but do not take for granted that you will get it.

REMOVAL FUND, ROYAL INSTITUTE OF BRITISH ARCHITECTS.—We are glad to hear that some 170*l.* have already been subscribed towards the removal fund. We hope to find it come up to the 300*l.* estimated outlay for removal. Sir Charles Pasley, C.B., Sir Gardiner Wilkinson, and Dr. Layard, honorary members, have come handsomely forward to assist. There are now about fifty names on the list, from 25*l.* down to 1*l.* 1s.; so there is a range in amounts of donation to serve as precedent to any who like to subscribe.

CHURCHES IN THE STATES AND CANADA.

NEW churches are in progress of erection at Hawesville, Hancock County, an important cut-stone edifice; at Hickman, Fulton County, a brick-built building, far advanced; at Bowling-green, Warren County, Ky; and at Long Lick, Breckinridge County, one to be dedicated to St. Anthony, and to replace the present tottering structure. The new church of St. Patrick's, at North Bridgewater, has been dedicated; it is 110 feet by 58 feet; is built of brick, with free-stone dressings, and basement of granite; style, Romanesque; tower and steeple 180 feet high, and commands a fine situation, in a principal street. The cost was 25,000 dollars.

The corner stone of a new church has been laid at Galt, C.W. It is to be under the invocation of the Apostle of Ireland.

In Toronto a new church has been commenced, and will also be dedicated to St. Patrick.

The new church of St. Aloysius, at Washington, is said to be an important building, and will be dedicated on the 15th of August.

The corner stone of the new church at Greece, N. Y. was laid on 19th June. A similar event took place at Carondelet, where the new church of St. Mary has been commenced.

At Louisville a new church of brick is in progress of erection on the site of the old log church of St. Vincent; and another has been commenced at Chicago, on the Lebanon railroad.

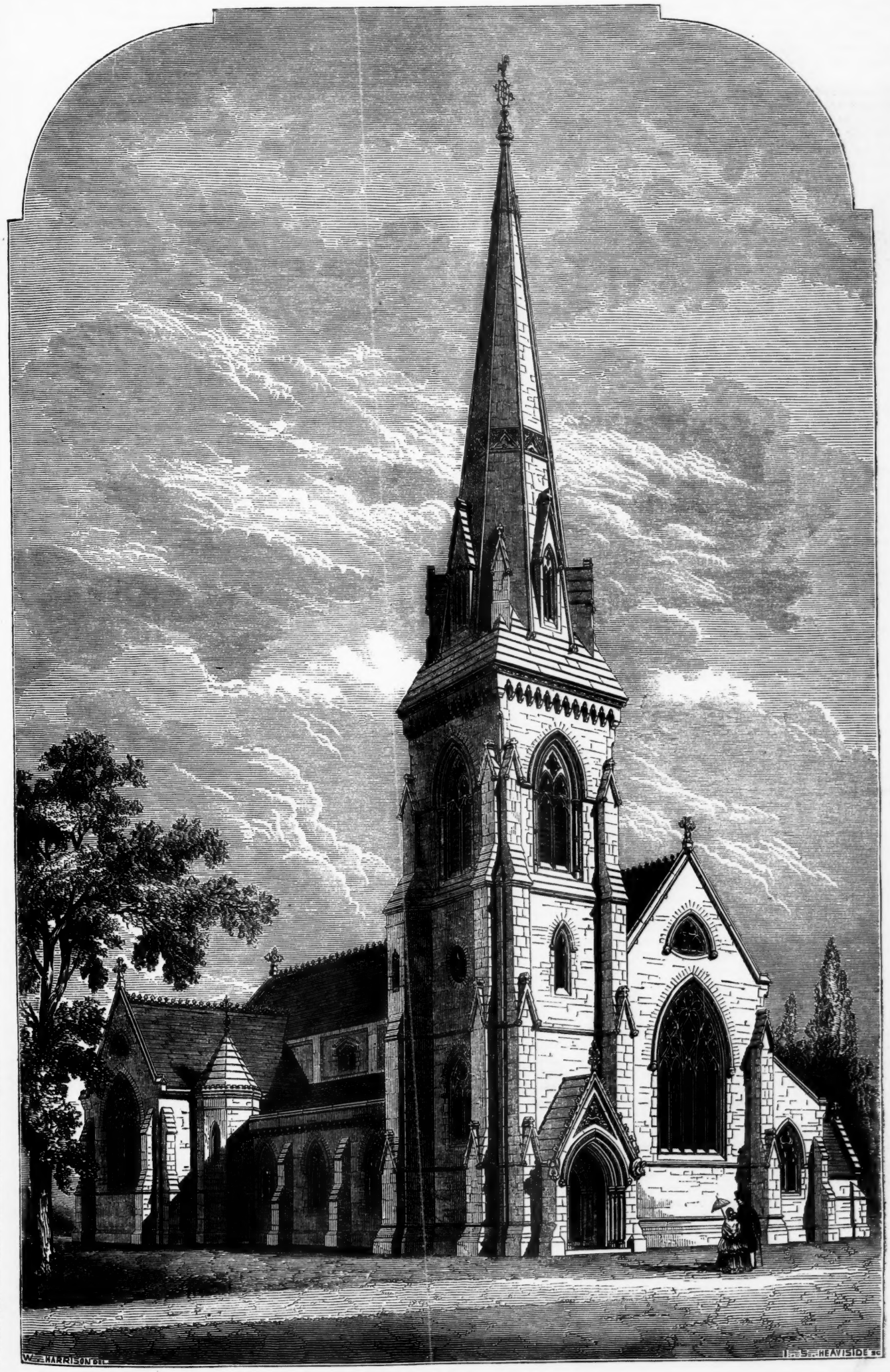
The corner stone of the new church at Portsmouth Va, to replace that recently destroyed by fire, has been laid.

SANITARY STATE OF BELFAST.

IT is a strange thing that Belfast, one of the most modern and architecturally built towns in Ireland, is, perhaps, the most deficient in sanitary arrangements and sewerage. Judging, however, from reports in the local journals, some happy-minded individuals seem to labour under a delusion that *such is not a fact*, but that Belfast is a pattern for every town in the United Kingdom as regards its sanitary arrangements; but a very casual observation with a fresh eye will convince that it abounds with courts and alleys so narrow that the inhabitants of opposite houses may shake hands from window to window, and so filthy and ill-ventilated that it becomes a matter of surprise how frail humanity can exist therein at all. Many of the streets may be said to have no sewerage whatever, as the old sewers when opened are found to be filled with a hard, dry, black residuum, up nearly to the soffit of the arch, which can scarcely be dug with a spade; and in some of the principal streets new sewers have been built at a low level, perhaps about that of ordinary neap tides, and the mouths of those connected with low lying districts liable to be flooded at *high* water, and provided with valves to prevent the ingress of the sea, and are during part of the time mere cesspools. We believe the population of Belfast is about 120,000, and that about one-third live (?) in the habitations above alluded to, in courts, &c. and the remaining two-thirds, including the professional and mercantile classes, are doomed even in passing to and fro through public thoroughfares to breathe the pestiferous exhalations from the dwellings of the humbler, from the public slaughter-houses in the centre of the town, and the starch, soap, bone, and other factories in the neighbourhood.

ST. LUKE'S CHURCH, HOLLOWAY, WEST MIDDLESEX.

THIS church, which was designed by Mr. Charles Lee, and erected under his superintendance, is situated on the estate of Thomas Henry Allen Poynder, esq. whose father, the late Mr. Thomas Poynder, presented the site. The funds have been raised by subscription, to which 500*l.* were contributed by Mr. Allen Poynder, and 1,000*l.* by the late Mr. Alfred Batson, the owner of the Copenhagen estate adjoining. The building is of the Decorated period in style: the plan is cruciform, with a tower and spire at the north-west angle: there are galleries in the transepts, and at the west end. The roof is open, showing its construction: it is of deal, stained. The exterior is faced with Kentish rag stone, the whole of the windows and doorways being executed with Bath stone. The church will contain 1,300 sittings, viz. 800 adults in pews, 324 adults in free pews, and 176 children in the west gallery. It is to be opened for service in October next. The total cost of the church, exclusive of enclosing walls to the site, will be 7,000*l.* The builder is Mr. George Myers, and the clerk of works Mr. Bontron.



ST. LUKE'S CHURCH, HOLLOWAY, WEST MIDDLESEX.—Mr. Charles Lee, Architect.

HATFIELD HOUSE AND ITS CONTENTS.

THERE are many spots of interest and great beauty within a circuit of twenty miles from the centre of London, and which can be reached at a trifling cost by railway; but few of them surpass in interest the picturesque grounds and house of the Marquis of Salisbury,—a place of some antiquity, and associated with important passages of the life of Queen Elizabeth. Before starting from the King's-cross station to Hatfield, it may be as well to note that this manor was an ancient demesne, and continued in the possession of the Saxon monarchs until it was conferred by King Edgar upon the monastery of St. Ethelred, in Cambridgeshire. Particulars of it are given in Doomsday book; and at the time of the confiscation of the church lands, this manor seems to have come into the possession of the crown. During the latter part of the reign of Henry VIII. Prince Edward resided at the palace of Hatfield, which had been built by the bishops of Ely. Upon the death of his father, Henry VIII. the young King Edward was escorted thence by his uncle, the Earl of Hartfort, and others of the nobility to the Tower of London, previous to his coronation. In the fourth year of his reign, the king conveyed the palace to his sister, the Princess Elizabeth. In the latter part of the reign of Queen Mary, the princess was removed from the monastery of Ashridge, in Buckinghamshire, to London, and imprisoned in the Tower, in consequence of her being charged with having been concerned in the rebellion of Sir Thomas Wyatt; she was, however, permitted to retire to Hatfield, under the guardianship of Sir Thomas Pope, the founder of Trinity College, Oxford. The manor afterwards came into the possession of Cecil, Earl of Salisbury, son of the great Lord Burleigh.

The railway runs past Holloway, Hornsey, the incongruous mass of buildings at Colney-hatch, the battle-field of Barnet, and so to Hatfield, through a pleasant and richly-cultivated country. The little town of Hatfield stands pleasantly on the side of steep hills: the old-fashioned houses, mixed with trees, and the body and spire of the church form a pretty picture.

Climbing up the hilly street to the old brick gateway of Hatfield-house, most of the shops and houses are seen to be of dwarfed proportions, the head of a tolerably tall visitor reaching above some of the shop-windows; but the place looks pleasant, and is very clean. We learn, in passing, that the drainage of Hatfield is carried to a place at some distance, called the "Black ditch," where it is collected and laid upon the land.

The brick entrance leading to the park and grounds seems to be of a little earlier date than the reign of Henry VIII. This has not any remarkable architectural features; but it seems that a wall of several feet in thickness was found while making some alterations: this has probably been a part of a building of much more ancient date. After entering, all that remains of the old palace inhabited by Edward VI. and Queen Elizabeth meets the eye. A large portion of this is used as stabling and other offices. Here is the room where Elizabeth was kept for some time a state prisoner: the chamber which she occupied is situated in the north part of this building: the exterior of dark red brickwork still is partly overgrown with ivy. The stable has a wooden roof springing from grotesque corbel heads, and is lighted from windows partly filled with stained glass on each side. This apartment is very lofty and of great size, and was the banqueting hall of the old palace: here were kept Christmas festivals, and at Shrovetide, 1556, Sir Thomas Pope made for the "Ladie Elizabeth, alle at his own costes, a greate and rich maskinge, in the greate hall at Hatfielde, where the pageaunts were marvelously furnished." At night the cupboard of the hall was richly garnished with gold and silver vessels, and a "blanket of sweete dishes, and after a voide of spices and a suttletie in thirty spyce, all at the chardges of Sir Thomas Pope." On the next day was the play of Holophernes. Queen Mary, however, did not approve of these "folliries," and intimated in letters to Sir Thomas Pope that those disguisings must cease.

Although the Princess Elizabeth was kept here a prisoner, she occasionally went to London to pay her court to Queen Mary; and in 1556 she was invited to court, and proceeded thither with great parade. The princess, however, preferred the quiet and pleasant scenery of Hatfield. The old hall now accommodates about thirty horses: although the space here is very great, we should not be surprised to hear that it is an unhealthy stable, for, according to the present arrangements, the place must be hot and confined in summer and very cold in winter. The combination of old trees, the rich coloured brickwork, the richly-wrought ironwork of the flower-garden gate, independent of its historical associations, forms a pleasing scene.

The noble park is eleven miles in circuit: here the new house, finished, in 1611, by Cecil, Earl of Salisbury, comes boldly to view. The house is of great size, designed with the architectural features of James I.'s reign: instead, however, of going at once to the house, many will be tempted to wander amongst the trees in the direction of the river Lea, which passes through the park. Flocks of deer are resting in the shade: rabbits are hopping about amongst the fern; and pheasants flying amongst the branches. Not far from the house is the racket-court and riding-school, both large buildings: near here is an ancient oak of extraordinary size, called the "Lion oak," a venerable tree, which, although deprived of many branches, is still crowned by large masses of green foliage and numerous acorns, is upwards of 30 feet in circumference, and is called a thousand years old.

A broad green glade of the park, now used as a cricket-ground, was, we believe, formerly occupied by the kitchen garden of the old palace. This, however, was removed by the first earl. The people of the town have the privilege of access to this delightful spot, and a short time before our visit, Mr. Rogers, the worthy clergyman of the Charter-house district—which is one of the poorest and worst-conditioned in the metropolis—was allowed, by the kindness of Lord Salisbury, to bring from the dingy courts and alleys upwards of three thousand poor children. Numbers of the clergy and occupants of the neighbourhood, and the band of the county militia, were also in attendance, and it was a day of pleasure to those little pent-up Londoners, and no less agreeable to those who had the opportunity of witnessing so much enjoyment.

A long and noble avenue of trees, with sunlight glistening on the grey mossy trunks and boughs, leads to the spot where the kitchen garden is now situated. Here is an old oak, now much stunted, under which the Princess Elizabeth was sitting when the messengers brought to her the news of Queen Mary's death, and saluted her as queen. With pomp, and amid great rejoicing, Queen Elizabeth progressed to London—a journey accomplished with much greater trouble three hundred years since than at present. Decayed parts of this historical oak, the "Lion oak," and some others, have been, from time to time, covered with *cement*, and this has not only had the effect of stopping the progress of destruction, but also been the means of producing both new wood and vegetation.

At the further end of the avenue just mentioned is a building of two or three centuries old, but which has been much disguised by alterations, which is now used as the gardener's lodge. Through this we reach the vineyard,—a curious example of the trim gardening of former days. From a terrace a bank descends by a deep gradient to the river Lea. On the upper portion of the terrace are yew trees planted at intervals, and dressed into singular shapes; in other parts the yew trees are so cut, that up to a considerable height they seem as straight and solid as a wall: openings are left here and there which lead to dark avenues, cunningly formed by the arching of the branches. From the centre a broad flight of steps, covered with turf, leads to the river. On the opposite side of the river, an opening has been made in the trees, which shows a picture that stretches away in long perspective. Descending the steps, and looking upward, the view is very striking, and we perceive that the design is intended to imitate a fortress, with its towers of defence, loop-holes, and battlements,—in fact, vegetation is made to assume an architectural form, which has an extraordinary effect.

The vineyard is admirably cared for, and must cause much labour. The ground is simply of grass closely cut. The scene suggests pictures of fair ladies and gallants in the brightly coloured costumes of former times.

When Charles I. was confined at Hatfield the vineyard was in good condition; and Hobson, the famous Cambridge carrier, who left people such limited "choice," and yet, amongst other good works, erected a fountain, and provided for its supply, near the scene of his successful labours, visited the vineyard about three hundred years ago, and speaks in praise of the arrangement and condition of both the vineyard and garden. The same praise may be given to the gardener now, for the grounds are well and skilfully kept. It is desirable to preserve the few old gardens which still remain, for, although they do not compare with the more free and natural style now in use, the effect is good, as a contrast with the free and picturesques pieces of water—displayed in the avenues close by. The river Lea is here very clear, and abounds with various kinds of fish.

At a little distance the Lea is crossed by a bridge, of Gothic design, erected by the present marquis.

Returning across the park to the north entrance, we are admitted into a spacious entrance-hall, which leads to a gallery of great length, open on one side by a sort of trellis work to the lawn. Here is displayed a large collection of arms, some of which was captured from the Spanish armada. Here is the saddle-cloth, of rich materials, which was used on the white charger ridden by Queen Elizabeth at Tilbury. There is another saddle-cloth, used by the first earl of Salisbury. There are also models, &c. and weapons captured in the Crimean war, which, as time rolls on, will become as valuable as those taken long since from the Spaniards. Hence we pass through various apartments used as sleeping and dressing-rooms. We will not describe these in detail, but generally mention that they are of good proportions, and have a sombre yet rich appearance. In each bedroom there are wardrobes and closets, carved in various manners in the style of James I.'s reign. The mantelpieces, chiefly of carved wood, are of large size: some are supported by massive pillars entwined with flowers; some stand out boldly, and are supported by caryatides and figures; others are flatter and more or less ornamented. The bedsteads, and much of the furniture, are of the same date as the other fittings. Throughout the whole of the house, in those apartments, are fenders of modern work, and of very good design: in the centre of each are the armorial bearings of the earls of Salisbury. In this part of the building a fire broke out not many years ago, when the dowager Countess of Salisbury, the mother of the present earl, perished in the flames. The damage has been well restored; and in the carved woodwork of the mantelpiece an oval gilt frame has been introduced, containing a well painted portrait of the deceased lady when she was a young girl. This introduction has a good effect.

In the chapel, at the other end, is a stained glass window of considerable brilliancy. It is of Flemish work, and contains, in compartments, scenes from Bible history. The effect of this fine work is to a great extent damaged by the flood of light which comes in at certain parts of the day from windows at the west end. All light in this well-proportioned little chapel should be subdued, except the principal window, and then the colours should be distributed throughout the carvings and walls. No doubt the effect of the chapel is better in the morning.

The long gallery, which measures upwards of 160 feet in length, 19 feet in width, and 16 feet in height, is a noble apartment, the narrow proportion and peculiar height giving it an appearance of great extent. The florid ornament in the roof is richly gilt. The light streams in from the numerous windows on the dark oak floor, and lights up cabinets and furniture of curious workmanship. There is a state chair here which in said to have been used by Queen Elizabeth. In a black cabinet is preserved a hat with a broad circular brim, which we are told was worn by the Princess Elizabeth when seated under the oak at the time of the arrival of the messenger above referred to. At the eastern extremity of the gallery is a very fine room, 60 feet long by 30 feet broad, and 21 feet high. In the estimate of the work done in 1610 this room is called the Great Chamber, and was probably used as such by the Lord Treasurer Cecil for his royal master. The large mantelpiece of various marbles, of bold and at the same time highly artistic design, has an excellent effect: in the centre is a statue in bronze of James I. In this instance the dark colour of the bronze figure is carried throughout the design by pillars, &c. of black marble; and a broad and satisfactory effect is produced by the contrast of marbles of slightly different tints, some highly polished, and some left dull. There are several pictures in this room of much interest, amongst them a head of Henry VIII. by Holbein; heads of Henry's wives; a characteristic portrait of Queen Elizabeth, and other historical personages. King James's bed-room has the fittings, it is said, exactly as when the king last used them: the hangings, of deep crimson, are profusely ornamented with tassel-work and fringe; the quilted coverlid has wrought flowers in the centre, and at the top of the bed is a royal crown, and other ornaments, which have an unpleasant effect.

It should be mentioned that many of the rooms

throughout Hatfield-house are fitted with woods of different kinds, and are named, in consequence, the "Oak-room," the "Rose-room," the "Walnut-room," the "Elm-room," &c.

The library, 57 feet long, 27 feet wide, and 18 feet high, contains a valuable collection of books, prints, and manuscripts. Here are original letters and other memorials relating to the political affairs in the reigns of Henry VII. and Edward VI. Here is also the diary of Lord Burleigh, and other matters in cabinets. Here are several relics, such as James I.'s purse, medals, and, until lately, the first pair of silk stockings introduced into England, worn by Queen Elizabeth. These, together with some other matters from Hatfield, may now, by the kindness of Lord Salisbury, be seen in the Brompton Museum.

Of the pictures, which are hung throughout the house, we would particularly notice the portraits of the great Lord Burleigh, and then his two sons; various portraits of Elizabeth: in one, taken when young, the face has a sweet and beautiful expression, in the others dresses are most elaborated—in one picture the robe is covered with eyes. There are various portraits of Queen Mary of England, and in the winter dining-room, which to our fancy is one of the most completely arranged apartments in the house, is an oval portrait of Queen Mary of Scotland, when at the age of sixteen years. Here are the Earl of Leicester, of Elizabeth's reign, James I. Charles I. different members of the Salisbury family, which are not only valued records, but also serve to show the progress of art. In the room just mentioned is a painting well coloured and drawn; it is a view in which the background is the Tower of London, and shows the procession, &c. of Cardinal Wolsey to meet Henry VIII. and Anne Boleyne. Here are the cooks at work, and the minstrels, &c. playing, and other matters which give a vivid picture of the times. Phillip of Spain, Van Tromp, the famous Charles of Sweden, Peter the Great of Russia, &c. are to be found on the staircases, &c.

In a great hall leading from the place where we first entered is the minstrels' gallery, ornamented with carvings of figures and animals, heraldry, &c. Here is a picture, life size, of the white horse on which Queen Elizabeth rode at Tilbury Fort, and ten large paintings of Adam and Eve. This hall is very picturesque.

The room occupied by our present queen, during a recent visit, commands some beautiful views. It will be viewed with love and reverence in future years.

OUR COLONIES AND HEATHEN TEMPLES.

IN a new colony we must not look for advanced taste: the required church is built large, capable of holding many more than attend, but it may be hoped empty seats will in time reproach, and entice many that might leave their stores and go. The church is, however, frequented by a goodly number of the most affluent, and stands where all must be reminded of its unfinished state, and yet the flooring is not completely finished. Years have passed over, one governor has followed another, and yet, which of them would celebrate his reign by causing the finishing stroke to be put to the church? Year after year has passed with signs of the incomplete workmanship. As you enter, and would desire to tread lightly and avoid the staring which every colonist appears to consider himself or herself at liberty to bestow on the last new arrival from the old mother country, you find each step, on the loose temporary flooring, makes a sound loud enough to rouse all curiosity, and along these planks you must be content to shamble. The reading-desk and pulpit cause your next fear, unless you know how many years they have already lasted. You naturally think this is the last day they will stand on their poor supports, made of rough poles from the bush: these are merely hints of the generally imperfect state of the church, though we could dwell on many other such sad particulars. We believe the appointment of the clerical care over our colonies has improved; but until we see able men in every point sent from the mother country—not merely those who desire to colonize and thus provide for large families, but those who would sacrifice their all to lay foundations for further extended exertion—we shall not see church principles take root in new soils. In the Australian colony I could draw a picture of a Roman Catholic convent, extending influence and care that tend to weaken any other less vigilant. The mistakes causing the disappointment in the much-hoped-for New Zealand colony of Canterbury, need not discourage, but ought to show what should be avoided. Party spirit runs high in a new petty world, to which a colony may be compared; but there are more hospitality and ready desire to lend a helping-hand, than can ever be found in the mother country. A blind man would never have to wait there for a conducting hand. Would England own the same kindred feeling there so happily influencing her children, the distance between them would seem less in other climes; and with such grounds as neighbourly cordiality to work on, would not a spiritual pastor mould a foundation to church principles, as well as the merchant scheme plans for traffic? Then storekeepers would not have their stores finished before the House of God. Could our clergy be allowed and enabled to carry out Catholic principles, our fallen sister of Rome would have less power. She must have a great hold on our Australian colonies, where so many emigrants are Erin's sons and daughters; but the greater the difficulty, the more able ought those to be who are sent to struggle: even highly talented, energetic, and hard-working men. It is quite a mistake, but one we often see, to believe that a fine scholar must be kept for a Belgravian pulpit, and is not needed in remote wilds. We believe he might there give a higher tone to each community thus ably headed. Learning would increase his authority and usefulness. We need not dwell on the loneliness he might feel. I have said a sincere, hard-working priest; and such a one will feel a true missionary spirit, and see it as a privilege to be selected for such important work. Our settlements amongst Africans, Indians, and others, require the same care; for, when we remember how soon the human mind sinks and degenerates, we might rank English officers in different departments and situations as in the same need as emigrants; and, even with heathens, the very great immensity and difficulty of conversion calls for all possible care in the selection of one who may find all powers and even cultivation of his own mind requisite. This has been a long digression from architecture, but I claim my right to think, as I am a traveller, and have visited four of the five continents. I believe wandering steps cause wandering thoughts.

When dwelling on the unfinished state of the church I have alluded to, I might well contrast, though with shame, the care even heathens show for the decorations of their temples; and I must add, that the colonists I allude to, though far from rich, could well come forward with means to assist, but they had already given well, and why will our English Government be lax? Government houses are built, commissariat warehouses, public buildings of all kinds, are erected by Government, and we might almost forget church and state are hand in hand. In India we may see the poorest votary bringing offerings of all he has, and seldom have I been more impressed than when seeing a poor ignorant heathen prostrating himself before his giant god, and offering his fresh pure flowers, the beauties, the voices of nature. And here, to redeem my promise, and turn thoughts more particularly to the form of building, I may mention a temple of Buddah I once visited in Ceylon, a few miles from pleasant bright Colombo, as to which, perhaps, if you have ever visited, and learned to the prize Southern hospitality of the residents, you may join in my wish that I would once more find myself amidst nature's true architecture. The lofty palms, the large soft-greened broad leaves of the useful plantain and wonderful mighty bananas, all might figure forth man's attempts, all give satisfaction,—a desire to excel in each sweep of the giant boughs of the mighty trees, under the proud covering, rearing their heads to protect us from a tropical sun. We entered the temple precincts, not of Herbert's sacred porch, for heathenism was around us. There were many steps to try us, accustomed to Indian bungalows, all sensibly built on the ground-floor. At each side of the portal, inside the first gate-way, may be found the huts of the priests and others employed about the temple. More steps, and then a black snake crawled past us, to remind us of sin. We hunted him under some planks: sin was covered for awhile, and we turned to man's works. Beside the temple there was a large white plaster building, in shape very like a pudding-basin standing bottom upwards. This was supposed to cover the teeth of the great god Buddah. We entered the temple, and found all possible care given to the internal embellishments. In the middle of one side of the room we first entered, there was a large figure of the god Buddah, and standing right and left, two smaller figures. The whole of the walls were painted with various histories, redounding to the praise and glory of the god; illustrating singular merits he had shown his votaries,—kings and queens, who had been beset by their enemies, saved by his timely succour; sickness cured; and, in fact, no event in life unrecorded by some tribute to his powers. In an inner room there was a gigantic figure of Buddah, extended at full length, his head resting on his hand: it was entirely gilded over, and preserved in glass. On a long table outside the glass-case there were nature's offerings laid. Here I saw the gorgeous shoe-flower, both red and orange; the lovely sweet orange-blossom; all brought as offerings. While we stood looking on the gilt monster, a poor Cingalise Buddhist entered noiselessly with his unshoed feet, and knelt with the air of true reverence, neither soft cushion, nor pew, nor ease-suggesting hassock required. His attitude showed this awfully erring, ignorant being, sincere and earnest in his faith. Are such things seen by angels? His whole figure seemed resting on prayer; and, until the eye turned to the idol, devotion seemed before us. No care and pains seemed too great for this temple: the floor was ornamented very prettily with what might well answer as tiles in our churches. It was a sad, impressive visit, that heathen temple. I sought another, where I could not understand a single word of the language. I had only just come into harbour, or rather, the open roadstead of Colombo, and rushed on shore with childlike eagerness. I had learned the names of the gods, and fancied Vishnu was the chief. I inquired anxiously for his majesty: the poor, gentle native, running by the side of my carriage, seemed to understand I wanted to see some temple and idols, and quietly took me off to the Roman Catholic church. The curious rebuke was striking. Perhaps I may here be allowed to wander into the land of mosques, and speak of a magnificent one I visited in Cairo, a large building, still giving the idea that no labour or expense could be considered too much for the place of worship. On entering the court we were required to take off our shoes before going inside the sacred building: when we did so the effect was striking; the decoration elaborate; but the extreme bareness struck us much. We missed the furniture of the church; in the midst of warm external gleams, all looked cold here; no altar, no seats; each person coming to pray carrying his own little piece of carpet. But nothing could exceed the care and pains bestowed on the building; walls, and ceiling were beautifully painted.

We may contentedly wander and roam far over God's fair earth, love nature in all her charms, but if man undertakes work, we judge with the recollection of the powers allowed, which he has undertaken to use: on he must toil; not wrap up his talents in a napkin, but labour with all his might; and may it not be that civilization some day shall crown her sons with glory, that all things may tend more and more to God's works,—show more and more His children's love of them; the earthly edifices for His worship more cared for; and all signs given of man's recollection of his Maker's goodness in letting the worm man assist in showing forth His glory, goodness, and power.

A TRAVELLER.

CHURCH BUILDING NEWS.

Newbury (*Berks*).—The New Baptist Chapel here was opened on the 12th instant. The edifice is situated on the east side of Northbrook-street. It will accommodate about 500 persons. The width in the clear of walls is 41 feet, and it is 56 feet in length, with an apsidal end, 17 feet in diameter, containing minister's platform and a gallery for the choir. On either side of the chapel, on the ground-floor, are passages to the school-rooms in the rear: the galleries extend over the passages, and are supported by ornamental cast-iron brackets. The ceiling is panelled, and in the centre there is a glass dome, from which the light to the interior is mainly derived. The dome is between the ceiling and roof, and covered externally with sky-lights. The front is of Bath stone. The building stands between two dwelling-houses. In the rear is a large school-room, with the requisite offices.

Egham.—St. Jude's Church, Englefield-green, has been consecrated. The style is that of the middle of the fourteenth century. The building consists of a nave, chancel, short transept, and tower. Outside, the materials are Kentish rag, with Bath stone dressings. Inside, patterns of brick and stone cover the walls, instead of plaster. There are two memorial windows, one in the east, commemorative of the vicar's eldest son, who died in 1855, on his way to the Crimea; and the other,

a rose window in the transept gable. These are done by Mr. Lamb, of London, the architect of the church. The east window contains five distinct subjects. The first light, on the left hand, contains "Our Lord blessing the children;" the second, "St. Peter baptising Cornelius;" the third, or centre light, "Our Lord's Ascension;" the fourth, "Our Lord stilling the storm;" the fifth, "The Angel sitting by the open sepulche and pointing upward." The subject of the rose window is "Mary sitting at our Lord's feet to learn of Him." The fittings of the chancel, the pulpit, the reading and prayer desks, are of oak. The church will seat 400 persons. The whole of the work has been done in the parish of Egham, by Messrs. Oades and Son, builders.

Woolwich.—The new congregational chapel in Rectory-place has been opened. The buildings comprise a chapel, calculated to seat 850 persons; a lecture-room for 230, which will also be used as a girls' school-room; a boys' school-room for 130; an infant school-room for 65; committee-room; library; and several rooms for vestries, &c. The chapel itself consists of transepts, galleries, and nave, the roof spanning the entire width between the walls. The interior dimensions are 62 feet in length, and an average width of about 40 feet. The main entrance is from Rectory-place, under a tower and spire. At the back of the chapel is a corridor extending the whole width of the building, having an entrance in Rectory-grove, and communicating by passages and staircases to all parts of the building. The edifice is built of Kentish rag and Bath stone. It is designed in the decorated style of Gothic architecture. The lighting of the building is by Gothic latticed and stained windows, and by numerous chandeliers suspended from the ceiling. The pews and woodwork are carved. The architects are Messrs. Lander and Bedells, of London. The building operations have been carried out by Messrs. McLennan and Bird, of London, under the superintendence of Mr. Neeton, clerk of works.

Hastings and St. Leonard's.—The foundation-stone of a new church, or chapel-of-ease, in the parish of St. Mary Magdalen, has just been laid. The site of the new edifice is in the London-road, and is the gift of Lady St. John, to whom the parish will be indebted for the erection of this poor man's church. The building is calculated to seat nearly 400 persons, free. The body of the church will be 53 feet 9 inches in length, and 32 feet in breadth (interior dimensions), and in the frontage or eastern part will be attached a chancel, 14 feet 5 inches wide by 7 feet 9 inches deep. On the southern side of the projection forming the chancel is a vestry-room. Four oblong windows, arched at the top, will supply light at each side. The only attempt at decoration is in a bell-turret, surmounted by a carved cross.

Kegworth.—The works in progress at the church here are progressing from designs and under the superintendence of Mr. Mitchell, of Sheffield, architect. Mr. Garland, of Nottingham, mentioned in our last, being the *builder*.

Durham.—The first report of the committee for the rebuilding of St. Nicholas' church has just been issued to the subscribers. The original scheme of repairing the old church at an estimated cost of 1,800*l.* having been abandoned, an entirely new edifice has been erected; in addition to which two school-rooms have been built adjoining the church, upon the site of an old house which was purchased for that purpose. These enlargements upon the original plan have been accomplished at a cost of 5,530*l.* 3s. 11d.

Gateshead.—The new Roman Catholic Church of St. Joseph, Gateshead, has been opened for worship. The building has been erected from the designs of Mr. A. M. Dunn; Mr. Hogg was the contractor. The church is designed in the Early Decorated style. The masonry of the walls is of "block in course," with chiselled dressings round the doors and windows. The principal part of the building, extending from the main entrance at the west end to the chancel at the east, presents the common arrangement of a nave and two side aisles separated internally by two ranges of stone pillars running from end to end. The nave measures 81 feet long by 24 broad, and the north and south aisles each 81 feet by 14½ feet. At right angles to this portion of the structure, and at its eastern extremity, is placed what may be termed the transept. This is occupied by a chancel 28 feet by 18 feet; and the chapels of the Virgin and St. Joseph, which open into the aisles and chancel by moulded arches, to be filled up with carved screen work. The tower will not be completed at present. The total cost of the building, exclusive of the site, will be upwards of 3,000*l.*

Newcastle-upon-Tyne.—The churchwardens of the parish of St. Nicholas, says the local *Courant*, have resolved (in conjunction with the Ions Memorial Committee) to put new stone-work into the large east window of the church, with a view of having it filled with stained glass as a memorial to the late Dr. Ions. The present window, which is much dilapidated, is one of the largest parish church-windows in the north, is itself a memorial window, and was erected by Roger Thornton early in the fifteenth century, about the same time as the spire. In order to insert the new window, it is found necessary to take down the whole of the end between the buttresses as low as the window sill, which will be restored with the window and the gable finished with a carved cross. Mr. Dunn is the architect entrusted with the restoration and design of the new window, which will be considerably higher than the present one, and will be filled with tracery, retaining the features peculiar to windows of the Perpendicular period, during which the existing window and that portion of the church were erected. The height from the sill is 33 feet, and the breadth 18 feet, the whole of which space will be filled with stained glass from the studio of Mr. Wailes.

Lumley (Durham).—The contracts for the new church at Lumley, says the *Gateshead Observer*, have been let, and the work is proceeding vigorously. By permission of the Earl of Scarborough a concert in aid of the building fund is to be held in Lumley Castle, and the foundation stone is to be laid by Viscount Lumley. The design for the new church is Gothic, and is by Mr. Matthew Thompson, architect, under whose superintendence the works will be carried out.

Coupar-Angus.—The foundation-stone of a new parish church has just been laid at Coupar-Angus. The old structure (to which an older still gave place in 1780) was condemned some time ago as dangerous. The new church has been commenced, the walls in some places being a good way up. The architect is Mr. Carver, Kinloch. The church is to be seated for about 1,200.

Coleshill (Warwick).—The restoration of Coleshill Church is now so far completed that the edifice has been formally opened. The entire expense—amounting to nearly 10,000*l.*—has been borne by the vicar, and by his brother, G. W. Digby, Esq. of Sherborne Castle. The restoration has been carried out, from the designs of Mr. Slater, of London, under the superintendence of Mr. William Thompson. Internally, the tower arch has been thrown open, the galleries removed, the floors in nave and aisles lowered seven inches, the walls of the south aisle rebuilt, and those of the north partially so, and both aisles lengthened at the west end about thirty-five feet. The roofs are entirely new. The seats, which are open, are oak. The chancel arch has been rebuilt. The roof has been restored as nearly as possible to its original style in the reign of Henry VI. The chancel contains several monuments of the Digby family. The stalls and pulpit are of richly-carved oak, executed by Mr. Forsyth. The reredos of alabaster inlaid with marbles, by Mr. Poole. The decorations to the roofs, by Mr. Lea, of Lutterworth. The floor is paved with tiles, and the spaces between these and the stalls (which have carved ends and finials) are filled in with Digby marble. The east window is of stained glass, the subject being the Crucifixion. One window on the north side contains a number of the prophets, and one on the south John the Baptist and several of the disciples. The artists were Messrs. Clayton and Bell, of London. The whole of the stained glass and chromatic illustrations are not yet completed. Externally the stonework is almost entirely new. The walls of the tower (which was in a state of dilapidation) are being replaced stone by stone, and the masonry of the spire has been repointed. The whole of the carving, both in wood and stone (with the exception of the gurgoyles), has been executed by Mr. Forsyth, of London. The inhabitants have contributed 500*l.* for an organ (which will be placed at the east end of the south aisle) and fittings of upholstery. The approaches to the church have been improved. The builder for the body of the church and chancel, was Mr. Robinson, of Coventry; for the tower and spire, Mr. Norris, of London.

Hawarden.—The re-opening of Hawarden church, Flintshire, on the completion of its restoration after the fire, which, in October, 1857, almost entirely destroyed the structure, has just taken place. The restoration details have been executed in accordance with the style of the latter end of thirteenth century, the only additions to the former structure being a spire on the tower, 35 feet in height, with four spirelets. In the interior the galleries have been removed, and at the north-west corner of the chancel an organ-chamber has been built. The interior of the church contains nave, with north and south aisles, the roof resting on three lateral arches supported by octagonal columns of Runcorn stone, which are new; but the arches have not been restored. In the aisles are the memorial tablets as before; and by the absence of the galleries additional light is obtained through new plain glass windows, in keeping with the type of an old window recently discovered in the south aisle. The floors of the nave and aisles are laid with black and red tiles, the pavement of the chancel being enriched with encaustic tiles. The roofs are of polished Dantzic oak, covered with lead, except the roof over the sanctuary, which is an arched and panelled ceiling of oak, enriched by tracery, and covered with green Welsh slate. The stained glass windows which had been put in not long previous to the fire have been renovated; and in the Whitley chancel a new stained glass memorial window has been erected by the widow of Capt. C. J. Deans Dundas, late of the Coldstream Guards, for some time M.P. for Flint. It is a three-light pointed window, having for its subject Ary Scheffer's "Christus Consolator," and executed by Mr. Wailes, of Newcastle-on-Tyne. The sittings are open seats running along the nave and aisles, with carved bench ends bearing sunk quatrefoils filled in with carved natural foliage. Accommodation is provided for about 650 hearers, which is an increase of nearly 60 sittings on the former building, notwithstanding the removal of the galleries. The timber used in the structure (English and Dantzic oak) was supplied by Messrs. Dixon and Myers, of Chester, and the metal work has been executed by Mr. Leaver, of Maidenhead, Berks. The tower has been underpinned and strengthened, a new floor of oak put in, and the peal of six bells re-hung by Mr. Mears, of London.

THE SERPENTINE.

THE article in *The Builder* (p. 455) is well worthy the consideration of those in authority. I agree with the writer of it, it cannot be necessary to concrete the bottom. If the mud were cast up in ridges and limed, it would be invaluable to spread over the land, in both the Park and Kensington-gardens: the bottom could then be filled up to the requisite depth with rubbish, which is always easily obtainable at a very small cost, and then covered with a good bed of gravel, which can be obtained in the Park and Gardens without any injury to the trees. The gravel should be run into the bed by a tram-way, and the mud, when dried, be removed by the same means, as much as is required for manuring the ground, and the remainder to fill up the excavations for the gravel, and at the same time the surface of the ground would be improved by a little undulation. Some alterations have been made of late to the sewers in the Bayswater-road, and, I believe, the sewer that used to overflow into the Serpentine at times is now connected with the main sewer that runs down across the Park from about Albion-street, so that no overflow of sewage need be feared in future.

The proposed artesian well should be high up in Kensington-gardens, so as first to supply the Round-pond, and then, by cascades or fountains, the head of the Serpentine. The expense of draining the bed of the lake, filling to a regulated depth, and gravelling the bottom, instead of concreting it, would very much reduce the expense.

The suggestion of a ferry to the receiving-house is a very good one, which I hope to see carried out. There was a ferry there some years since, but I know not if it has been continued.

OCTAVIUS.

FLY-WHEELS TO SMOKE-BLOWERS.

WE have received some letters from a working man, pointing out what he considers errors in the application of heavy fly-wheels to hand-blowing machines:—

"Almost every smith says that these machines are of no use unless they are worked by steam-power. I say they are, if the driving-wheel is as light as possible for that purpose.

A boy six years of age can work one that I have arranged; but it takes a strong man to work the heavy one to produce the same effect. I have tried them both, and I know this to be a fact. Just fancy a man having to pull 3 cwt. of wheels round, and another man only having 28 lbs. of wheels to pull round. It puts me in mind of two equal men having to row a match, one man's boat to be 3 cwt. and the other man's boat to be 28 lbs.

I think, sir, a few lines in your valuable paper on the subject of fly-wheels and their use would be doing the public in general a great deal of good.

I know of an engineer who is a foreman at a large shop. He made a four-wheel carriage to travel along the common road with, and he could not get along so well as he expected; so he took his carriage to pieces, and put a fly-wheel to it, and he found out that it was worse than ever. So I told him that if he wanted to break his neck down the hill, the fly-wheel would assist him to do it; but it would not assist at all on the level or up hill. I have made one of these four-wheel carriages myself. It is a very small one: a boy eight years of age can work it up Westminster-bridge, and take a child, half his own weight, in a little seat behind. I have gained one advantage in this little four-wheel carriage; that is, the boy can work it with both feet and both hands. I have put a pulley on the right hand lever, so that he can pull quite as much with that hand as with the other, and steer too. B. COOKE."

DECREASE IN OUR STREAMS.

BEING a subscriber to your excellent paper, the *Builder*, I noticed in last week's number an account of the gradually increasing scarcity of water in the northern rivers; and, having made the same discovery myself with reference to our Yorkshire streams, it has frequently occurred to me that, unless we adopt some measures for counteracting the evil, it will go on increasing from year to year (with the increase of drainage and population) till our beautiful fishing-streams become, in dry seasons, mere sewers and stagnant pools of putrid water, and the fish extinct. There appears to me only one remedy, and a very simple one it is,—viz. to store up and preserve the abundant supply of rain-water which Providence sends us, instead of allowing it to rush in torrents to the sea, as it now does, causing much higher floods than were usual when lands were not so extensively drained, thus doing more harm in times of flood and less good in dry seasons, by being passed off the land in so short a time.

The area of Yorkshire being about 3,800,000 acres, and the population 1,798,000 persons, we have more than 2 acres to each individual, upon which (taking 24 inches as an average rain-fall, and allowing half for waste), as much rain falls as would supply 140 gallons a day to each person the year round,—a quantity about twelve or fourteen times as much as is generally allowed to each person. In calculating the supply for towns, this surplus, if stored in reservoirs or dams of any kind, could be let off gradually in dry seasons, so as to maintain the streams at their ordinary flow, to the great advantage of the water-mills at such times, as well as during floods, by holding back a large portion of each flood in such reservoirs or dams. There are few valleys in which reservoirs could not be constructed, and, generally speaking, at moderate cost, which would be amply repaid by increased horse-power to the mills, abundant supply of pure water to the population, and (last though not least) better for the fishes.

A FLY FISHER.

TRAMWAYS.

"HELP FOR THE HELPLESS."

IN the hope of affording not only employment and food, but some pleasures, to the poor, allow me to present you and the public with the following plan, in the practicability of which I have good reason to believe.* First, informing you on the authority of the late Sir James McAdam, "that every horse consumes the produce of four acres per annum,—enough for eight men;" and on that of Mr. Jessop, who proved before the lords "that one horse drew twelve tons on the Darlington rail,—three miles an hour; that one gig-horse drew *forty-one* persons on it,—*eight* miles an hour." Well, sir, only lay down the long granite curbstones of the street in a double line for the wheels of all carriages to run on, so long and successfully done in Friday-street, Cheapside, the Commercial-road, up Reigate-hill, the corso of Milan, &c. not only through the metropolis, by which you abolish the distracting noise of the city, its dust, dirt, and I had almost said the draft of the noble horse, at once, but from one end of the kingdom to the other. There is employment for every idle hand, disbanded militia, unskilled labourer, prisoner, discharged or not.

Does it not follow, by dispensing with half the horses (draft), that the land required for them would feed us all? We should be less dependent on foreign supply for our daily bread: much of the lost traffic of the public and private roads, and their pleasures, would return: "there would be no complaining in the streets." Must I add that every carriage passing over such a railroad would consolidate and improve it,—the heavier the better. Now, just the reverse, the first heavy carriage crushes the best flint-gravel to powder, then come dust and watering, dirt and scraping, and, worse than all, picking up and relaying with a thick coating of macadamized granite or gravel at a great cost of labour and money. Perhaps large blocks of semi-vitrified clay or other hard substance might answer if the curbstones were too expensive, though the first cost would be almost the last, equally good winter as summer. Omnibuses of any size, as at New York, would go of themselves, once in motion. I venture to say that manual labour may be so applied as to supersede in a degree both horses and steam.

DEANE F. WALKER.

* Often before urged in our columns.

VENTILATION OF HOSPITALS.

IN your number of July 2, you were kind enough to introduce some remarks of mine on the system of ventilation of Dr. Van Hecke. You also gave to your readers a description of his apparatus, translated from the Government report upon its establishment at the Hospital Beaujon.

This was the first hospital entrusted by the French Government to Dr. Van Hecke: the second was the larger Hospital Necker. Upon this the Government ordered also a report, which was made by Monsieur Blondel, Inspector-General of l'Assistance Publique; Monsieur Labrousse, Architect-in-Chief of the Hospitals in Paris; and Dr. Grassi. The report thus commences:—

"The complete study which I had occasion to make of the apparatus for ventilation and warming of Dr. Van Hecke established at the Hospital Beaujon dispenses with a detailed description of that at the Hospital Necker. There exists, in fact, great similarity, but there is a most important remark to be made.

The apparatus at Beaujon, constructed at a time when doubts existed as to the relative merits of the system of ventilation by suction (*appel*) or pulsion (*injection*), was necessarily affected by their hesitations. On this account the apparatus was so constructed as to permit the employment of either means using the same motive power.

This wise disposition enabled us to resolve in a decisive manner the question as to the choice of system, and to preserve in after works the one which by comparative experiments should prove the best.

These were made (*loc. cit.*), and proved incontestably the superiority of ventilation by pulsion.

This enabled the adoption, at Necker, of apparatus more simple, disengaged of those parts so useful to us at Beaujon, which ceased to be so after the experiments they had enabled us to make.

We have, therefore, to signalize for the Hospital Necker a notably increased perfection which we shall mathematically establish," &c.

This report, of which I send you a copy, was published in connection with one from Dr. Vernois, in Paris, January, 1859.

In the pamphlet by Mr. W. W. Phipson (Remarks on Ventilation, &c.), there are several extracts from it.

May I hope that, in justice to the inventor of a system so beneficial to humanity, you will kindly notice this further and later testimony to the merit of his discovery? It has obtained for him the commands of the French and other Governments, where hygiène has been longer a study than in England.

Here, indeed, are to be found nearly as many systems of ventilation as there are hospitals. How few, indeed, effective! P.

MASTERS AND MEN.

SIR,—I think it should be known that the committee of workmen have issued the following notice to four London masters:—

"GENTLEMEN.—We, the men in your employ, consider that the time has arrived when some alteration in the hours of labour is necessary; and having *determined* that the reduction of the present working day to nine hours at the present rate of wages, asked for by the building trades during a public agitation of eighteen months, would meet our present requirement, we respectfully solicit you to concede the nine hours as a day's work. A definite answer to our request is solicited by the 22nd day of July 1859."

[Signed by a large number of workmen in each case.]

This notice is shrewdly worded: although strike is very well understood as the thing involved, it is not expressed; again, the words "*present requirement*" give a hint that further demands are intended.

Do, pray, warn the men against the evils into which they are rushing.

But this nine hours question, although so important as touching a vital standard and principle, is not the sole point at issue just now. In several firms strikes are *actually* on, because the masters will insist on the freedom of employing men indifferently, whether they belong to the Trade Society Union or not. You will see in a moment what deep questions of social policy would be invaded if one set of men could dictate to their masters who should be employed. It is the secret character of these societies that is so painful and serious. A. B.

SIR,—I think that the bricklayers are better off at the present time than we have been for the last thirty years. At that time our wages were 4s. 6d. and 5s. per day, of ten hours, and provisions of every kind were much dearer than at present. The truth is, railways have been the cause of much work; and that has introduced a class of men into the building trade, who are in the receipt of good wages, who otherwise would have been farm-labourers or emigrants; and these are the men that say they are made slaves of by the use of machinery. Yes, they are slaves in one sense; but it is of the talking machines of the Saturday night lodge; whose object is to be paid out of the working man's earnings, and to create a general discontent among the working classes. I find it denied the men had any intention of striking for the nine hours. Then why were those slips of paper sent to each member, with the three following words on each slip, "Agitation, Arbitration, Strike?" and each member to write his name under the word he wished to vote for; and the majority was for arbitration; and then had no one to arbitrate with. But how would it have been if the majority had voted for a strike?

A BRICKLAYER.

CASES UNDER METROPOLITAN BUILDING ACT.

DIVISION OF WAREHOUSES, 27TH AND 28TH SECTIONS.

AT Bow-street, recently, Mr. Fowler, the district surveyor of St. Giles's and St. George's, Bloomsbury, obtained a summons against Mr. Turner, the contractor at present engaged in uniting the extensive warehouses of Messrs. Deed, leather merchants, of 451, New Oxford-street, with some smaller adjacent premises in Arthur-street, recently purchased by the firm. The Act provides that every warehouse containing an area of more than 216,000 cubic feet, shall be divided by a party wall,—this particular clause having been inserted at the suggestion of Mr. Braidwood, as a means of guarding against the rapid extension of fire over a large surface in crowded thoroughfares. Now, it happened that the warehouse of Messrs. Deed already exceeded the limits thus prescribed, but having been constructed before the passing of the Building Act it did not come under its provisions. It was contended by the surveyor, however, that the work now going on being in effect an enlargement of the old warehouse, by the opening into it of the newly-purchased premises, brought the whole within its operation. The external wall of the smaller house had been removed, and openings made in the wall of the larger house to connect them; the communication between the two being of a nature and extent prohibited in party walls dividing premises of so large an area as the latter.

On the other side it was contended by Mr. Orridge, the counsel for the defendant, that the two premises, being wholly distinct and separated by a small space between the two external walls, were to be regarded as two different buildings, and that the clauses in question were no more applicable to them than they would be to two warehouses on the opposite side of the same street, connected by a bridge passing over from one side to the other. There were formerly windows in the external wall of Messrs. Deeds' warehouse, which had been blocked up by the construction of the smaller house in front of them, thus impeding their means of light, air, and ventilation, which would now be restored by the works in progress.

Mr. Henry, after appointing a day for the personal inspection of the premises, now decided that the summons must be dismissed, on the ground that it was exempt under the provision of section 7, that "whenever mention is herein made of any building, it shall, unless the contrary appears from the context, be deemed to imply a new building;" and it was not clear that the 27th and 28th sections were intended to apply to old buildings. Also, that the wall between the two buildings was not a party wall according to the definition in the interpretation clause, which did not agree with the use of the term in the 27th section. The Act was full of inconsistencies, however, unless applied exclusively to new buildings. Mr. Fowler said he was quite aware of this, and had only sought a decision on this point to guide him in his public duties.

FATAL ACCIDENT AT LEITH.—The upper portion of a very high chimney, which is being erected in Commercial-place, Leith, has suddenly given way, and two men were precipitated to the bottom from a height of 150 feet.

A BIT OF CIRCUMLOCUTION.

THE COMMITTEE OF COUNCIL OF EDUCATION.

SIR,—Your correspondent, "Sigma," is just in his denunciations of the above council, in your last impression, and if he is proceeding with his schools, I can tell him further, that the circumlocution will progress with him. He will send in his drawings for approval by and by, and as he will indicate some red brick bands, or dressings, or scolloped slating, or angle brick course, under his gutters, the P. C. will indignantly return the drawings to the "Correspondent" of the schools, saying that they are of too expensive a character. He will then be requested to prepare another set, and if wise, he will call about two o'clock (he seldom turns up earlier), on the architect of the department, and ask him what he recommends him to do. The architect will receive him most courteously, and eventually recommend him, with a tinge of satire as to the noble president, to "leave out his scollops." "Sigma" will return to his office, and have the same design prepared by his Quaker clerk, no scollops to the slates, no angle brick cornice, no red bands; altogether a most quakerish set of drawings. In they go to Downing-street, upstairs to be opened, down-stairs to have "approved" inscribed by the architect, and then away one hundred miles into the country, to the "Correspondent," instead of over the road, or to the Adelphi, where the designer's office is, for him to prepare the working drawings (and lucky will he be if they don't get lost on the road, and another set have to be made and sealed before he can begin). Let me also warn "Sigma" touching that same "memorandum," because the P. C. do not abide by it. They therein allow 22 inches to big boys, and 18 inches to little boys; but in calculating the area by which their grant is made, they will not allow the larger dimension to be accounted for at all. They only give grants to little boys, and he will be told to reduce the dimensions of his school-room, as it is too large for the number of boys, "Sigma," in his innocence, having reckoned half for large boys, 22 inches, and half for small, 18 inches.

DIGAMMA.

SIR,—I regret to say that your correspondent "Sigma," is not the only one who has to complain of the unnecessary and vexatious treatment that parties receive from some of the subordinates in making application for grants, particulars, &c., at the office of the Council of Education; a system of annoyance perfectly unknown to the Lord President or the secretary, whose time is too much occupied to redress all the evils so much complained of, and which add so materially to his present onerous and overpowering duties; and many questions, instead of being left in the power of their architect, are left in the hands of those who know as little about architecture as they do of how to pronounce the word properly.

A SUBSCRIBER.

*** We have received five other letters to the same effect. The mode of managing matters in the office has evidently produced a very unpleasant feeling, and we recommend those who are concerned in it to attempt some improvement forthwith.

AMERICAN BUILDING PATENTS.*

PILE-DRIVER. — *Waldo P. Craig*, Newport, Kentucky.—Claim—1st. The application and arrangement of the guides attached to their upper ends by universal joints to the frame, and at their lower ends, sliding in apertures in a collar adapted to fit over the end of a pile, and follow the same in its descent. 2nd. In combination with the above, the turn-table, constructed as set forth.

CASTING AND ANNEALING ARTICLES MADE OF SCORIA.—*Wm. H. Smith*, Philadelphia, Pennsylvania.—Claim—1st. The construction and use of the horizontally revolving casting wheel, for facilitating the casting of slag and similar mineral products. 2nd. The construction of an annealing chamber having various modes of retaining and regulating the heat therein, viz. by a series of dampers, by the construction of grooves and troughs in the walls, in connection with the flanches and dippers of the bed, with or without the use of sand, by the devices at the ends of wagons, and by the use of the ante-chambers. 3rd. The use and combination of a series of rollers with a traversing bed, for imprinting an entire pattern of different-coloured figures. 4th. The construction and employment of segmental sliding moulds, as shown, or of similar character, and the mode of arranging and working the same, as described.

MANUFACTURE OF STEEL. — *F. A. Lohage*, Unna, Prussia, assignor to *E. L. Benzon*, Boston, Massachusetts.—Claim—The art of manufacturing steel of any desired temper, or hardened according to the various purposes or uses for which the steel may be required, by arresting the decarbonization of the mass of metal in the furnaces at certain points or stages thereof, ascertained and recognized by means of certain phenomena, or external indications manifested by the material, substantially as described.

MAKING BOLTS AND RIVETS.—*J. R. Bassett*, assignor to self and *A. E. Bateman*, Cincinnati, Ohio.—Claim—The die, substantially as described.

CAST IRON POST FENCE.—*P. Stewart*, assignor to *Auchambaugh, Brothers*, New Lebanon, New York.—Claim—A cast iron fence post, constructed with flanches to protect the ends of the fence rails against being split as well as against moisture, in the manner described.

EXPANDING AUGER.—*Charles Meyer*, Fond du Lac, Wisconsin.—Claim—An expanding auger, constructed and operated substantially as described.

ROOFING CEMENT. — *Oscar S. Oaks*, South Rutland, New York.—Claim—The employment, in combination with the other substances specified, of the alkaline solution of shellac and the sulphate of baryta, the whole being compounded substantially as and in about the proportions set forth.

CEMENTING ROOFS.—*J. L. G. Ward*, Adrian, Michigan. — Claim — The covering of roofs of buildings by laying bricks, or tiles, or slabs of other material, in a bed of cement consisting of an alkaline silicate, and subsequently treating the surface of said cement with an acid which combines with the alkali thereof, and leaves a surface of pure silica.

APPARATUS FOR HEATING BUILDINGS.—*Lewis W. Leeds*, City of New York.—Claim—Combining the uses of steam and water for heating buildings, by means of one or more water vessels combined with a separate steam-boiler, and applied in such manner that the steam from the said boiler is employed only to heat the water in the said water vessel or vessels, and that the said water vessel or vessels constitute the heater or heaters of the air, as described.

METHOD OF OPENING AND CLOSING GATES BY WEIGHT OF VEHICLE. — *Frederick B. Betts*, Brownhelm, Ohio.—Claim—The combination of the roller and its appurtenances with the levers and connecting-rods, and with the gate, for the purpose specified.

METHOD OF OPERATING FARM-GATES BY APPROACHING VEHICLES. — *A. J. Hamilton*, Kewaunee, Illinois.—Claim—1. In combination with the two road-levers, the rigid actuating-rods, crank-levers, latch-rod, swivel-bar, and latches. 2. In combination with the road-levers, the elevations or hedges, as described.

* From the condensed lists published in the *Journal of the Franklin Institute* of Pennsylvania.

Correspondence.

THE PROPOSED HORTICULTURAL GARDEN, SOUTH KENSINGTON.

SIR,—As a matter of justice, I ask your insertion of the following:—

A plan for a new garden, in the grounds reserved by the Commissioners, was foreshadowed and sketched in the *Builder* of the 9th inst. This is truly a grand opportunity for the attainment of some public exhibition worthy of the day, of the projectors, and of the country.

The site given is a paralellogram, of about 750 yards long by 400 yards wide, extending, in length, from the Kensington Gore-road, north, to the Cromwell-road, south; and in width from the Exhibition-road, east, to the Princes-road, west.

This plot slopes from an elevation of 64 feet at Hyde-park, to 30 feet at the Cromwell-road, and is surrounded by broad causeways, which rise 6 feet above its level on the east, west, and south, but level with the Gore-road on the north: on this latter side there are still several houses standing—two terraces, three or four small old tenements and gardens; and at the north-east angle, Eden House and grounds, which occupy about eight acres, and may be termed the Garden of Eden. The only portion of the north frontage now in possession of the Commissioners is that which formerly belonged to the Countess of Blessington, an abode known for the extraordinary luxuriance of its shrubberies, and for scenic and floral beauties, which savoured more of Hants or Devon than of the suburban metropolis. The whole extent of this once lovely seat is now covered over, and filled in to a level with Kensington-Gore-road, and presents the aspect of a terrace of London rubbish, about 300 feet wide by as many in depth. Two or three feet are cut away from the border next the road, to form a dead level: the shrubs are wholly buried, and the fruit-trees are collared round, and heaped about to the height of 20 feet, at about the springing of the topmost branches.

It is intended, doubtless, to treat the other lovely bosquets on the north end, as soon as they fall into possession, just in the same manner.

Well, now we are to have *hanging gardens*, terraces, fountains,—mayhap something more; yes, we are to have an arcade, as you say, Mr. Editor, "4,000 feet long, of various design."

Good,—the garden is to be twenty acres out of one hundred: twenty acres more are to be reserved on Cromwell-road for an exhibition of 1861: a margin of about twenty acres is to be also reserved, of 150 feet in depth, along each of the parallel roads; and lastly, about forty acres (as before described) on the north end next the Gore.

This reservation of 150 feet in depth, running to a length exceeding 2,000 feet along the Prince's and Exhibition roads, looks suspicious; for, as you say, "the Commissioners may hereafter determine to erect buildings, public or private!"

Is the Commission a scheme for plotting out land in order to obtain the largest annual rental? Is it really to obtain by public grants land for public uses? Or is it a *coup d'etat* to enrich the Exchequer under the semblance of consulting the public health, benefit, and recreation?

I say, sir, that the intrusion of a single private structure upon the area purchased for the public uses would be a breach of faith, a breach of principle, and a breach of contract. I might say more, but respect for possible good intentions of the principal actors restrains me. The temptation to let off 2,000 feet frontage at three guineas, ay, or even four guineas a foot (for much would actually bring four guineas), is too great for mortal commissioners to resist; and seeing that they have let already much at three guineas, and that the speculation has turned out a most prosperous one, the commissioners might be induced to forget that they were appointed to be only caterers for the common weal, and not Chancellors of the Exchequer.

There is throughout Europe a taste growing in favour of that style of landscape plantation which we call the *English garden:* in America, they affect it; in Australia, by a slight metamorphosis of the rude woodland, they realize it: every country gentleman exhibits with pride his garden, his shrubbery, his bosquet, his wilderness; all adjacent, or vicinal, or commingled: the glories of the forest, the riches of the nursery, and the luxuries of Flora, are all blended; and thus those treasures which nature profusely offers to the senses are judiciously combined to afford delight in sequestration; but now we are to forego all this, we are to revert to the terraces, the steps, the balustrades, the fountains, mayhap of a Dutch, of a French, or of a German garden! Well, for a level, the Tuileries is not so bad; the Boboli gardens at Florence, as placed on a hill side, "*acanto del fiume*," may be excused; but to sink, to embank, to submerge under 20 feet of rubbish, and to denaturalize grounds already furnished with luxuriant English shrubbery, would be a wantonness.

Now as to this arcade of 4,000 feet, which is to circumscribe the garden; granted that the commissioners have no ulterior view of dexterously turning the whole into a building speculation; this arcade, then, ought to be pillared, arched, and windowed at both sides; it would be more enjoyable as a promenade, more congenial to the growth of plants, and infinitely more ornamental as viewed from the surrounding princely causeways.

It must not be forgotten that the noble ranges built on the east and west sides, by Messrs. Freake and Jackson, were erected on faith that the whole quadrangle was to be open park, or exhibition grounds; and that if the proposed arcades be built with a solid external wall, as they must be, to the height of 17 feet, including the parapet, then a most unsightly screen will mask their view; since the mean depth of the grounds, below the roads, is but 6 feet.

To cover the whole circuit or margin with terraces to the depth of 150 feet would realize a rental of at least 15,500*l.* per annum; this would be the rental at 10*l.* a yard for 1,550 yards; there then would remain the profits of the 20 acre winter garden; for the Commissioners give no land altogether free, even for public uses. John Bull's minor family would pay amply for these by admissions, if only at 3d. a head; and aristocratic fêtes on two days each week at 1s. or more, to gratify the upper 10,000, would create a noble revenue.

QUONDAM.

Books Received.

The Principles of Beauty, as manifested in Nature, Art, and Human Character, with a Classification of Deformities;—an Essay on the Temperaments;—and Thoughts on Grecian and Gothic Architecture. By MARY ANNE SCHIMMELPENNINCK. Edited by CHRISTIANA C. HANKIN. London: Longman and Co. 1859.

THIS is a highly ideal work, by a kind of feminine Coleridge. The deceased lady was in very early life a thinker on the subject of beauty in all things, and in her more mature years, she advanced to "the beauty of holiness," "the beauty of perfection;" so that finally, both heaven and earth were brought within the scope of her "large ideality," as the phrenologists would call it. She was of opinion that the "admiration of what is grand, awful, and solemn—the love of what is soft, elegant, and graceful—the pleasure of what is new, brilliant, and surprising—are indigenous in human nature: hence the three classes of beautiful expression which have found appropriate utterance, by means of each of the fine arts in every civilized age."

As regarded architecture, the authoress was an enthusiastic Gothicist, and thus sums up the contrasts between Grecian and Gothic—or, as she styles it, Christian—architecture, in a manner which, if not altogether original or free from error, shows that she had thought on the subject:—

"Grecian architecture is horizontal; Christian, vertical, pointing upwards. Grecian colonnades are connected by entablatures; Christian, by arches. Grecian orders are co-existent; Christian, successive. Grecian temples are without light; Christian, abound in windows. Grecian buildings exhibit size by magnifying parts; Christian, give size by multiplying parts. Grecian structures are regular, intended for ornament; Christian, irregular, adapted to use. Grecian are ornamental, seeking primarily to gratify the taste; Christian, seeking not ornament for its own sake, but to show forth the types of moral and devout truth."

She thus expresses herself at the close of her remarks on architecture:—

"As principles are nearly connected with tastes, it does

appear to me that the classic Pagan tastes ought to find a less prominent place in education, and that we ought to cultivate that taste which is the genuine outpouring of a Christian heart. Happy the time when England was not ashamed of being and of seeming Christian, when her flowers, the Star of Bethlehem, the Passion Flower, Solomon's Seal, the Speedwell or the Traveller's Joy, marked the habit of giving to all, even to that which is evanescent, pleasant and sweet names, showing that the spontaneous utterance of the heart was love to God and love to man."

In what is said of deformities, as regards architecture, we may quote the remarks of Mrs. Schimmelpenninck, as an example of the mode in which she deals with her subject, and of the general style of her book:—

"Deformities may be divided into two grand classes, corresponding to those of direct and indirect beauty.

In the first class various parts of the same object are made to exhibit contradictory expressions mutually destructive of each other, as though the object or work of art had been constructed to no determinate end; and as a house divided against itself obviously cannot stand, little more need here be said of this class of deformity than that it is a solecism, the representations of which can never enter into any legitimate object of artistic representation.

As examples of this violent self-destructive discord, may be adduced *spiral columns*; the waving line of compliance being substituted for the right-lined perpendicular form of strength, in that part of a structure the very object of which is to give firm support.

Again, in architecture. Houses, like many in Rotterdam and Amsterdam, with the upper storeys overhanging the lower, are essentially on a false principle. For a house being stationary, the base ought to occupy a wider space than the superstructure. The latter should, in truth, almost imperceptibly converge as it ascends, on the principle of a Gothic tower, thus giving the effect of being firmly rooted and grounded.

The foregoing examples will sufficiently illustrate the self-destructive principle. This class of deformity corresponds by inversion to the indirect class of beauty.

I believe that in Raffaelle's cartoon of "The Beautiful Gate of the Temple," the false line of the spiral column (in contradiction to all sound intellectual taste) is introduced with consummate skill to impart redoubled force to the rectilinear form of the apostle; thus weakening the strength of the massive fabric of stone, to infuse a preternatural force into the divinely-inspired soul beaming through the temporary tenement of flesh and blood."

To all who love the ideal and the mystical combined in art-subjects, this work will doubtless prove a treat, whether the readers agree or differ with the authoress. There is not much of definite and tangible teaching or fructifying principle to be found in it, but there is a good deal of lofty thinking, and religious idealism.

GUIDE BOOKS.

NEW editions of three of Messrs. Longman's cheap practical guides, by "An Englishman Abroad," have been issued,—namely, the "Practical Rhine Guide," the "Practical Swiss Guide," and the "Practical Paris Guide." These all appear equally good as those already noticed, and although not intended to rival Murray's more elaborate and dearer guides, they seem to be excellently well adapted for a rapid run over the ground, noting only just the most notable points as they everywhere turn up and disappear again in the distance. Their purpose, in fact, is to aid those who only desire "to see all that ought to be seen in the shortest period, and at the least expense," without much loss of time in close or leisurely inspection.

VARIORUM.

THE present number of the *Edinburgh* contains an article on Athens and Athenian art, founded on a review of M. Beulé's book, "L'Acropole d'Athènes," wherein, giving M. Beulé credit for "patient and minute research, which is the first quality of the archæologian," objection is taken to most of his conclusions. We give the reviewer's concluding paragraph:—

"We linger round the glorious works of the Athenian Acropolis, and the illustrious names which are associated with them. Of most of them our knowledge is scanty indeed. Mnesicles, Ictinus, Callicrates, and Alcamenes are but a few with whom time has dealt more gently than with others once not less illustrious; yet even these are to us but little more than a name. Phidias alone stands forth, solitary alike in his greatness and his misfortunes; and in his history, so glorious in its course, so disastrous in its close, we see the full working of that mysterious spell which lured the countrymen of Pericles to reject and dishonour the most eminent of their race in philosophy and art as in civil government. The workman was gone; but his work remained to win for Athens an undisputed supremacy. The choice of the Sage Goddess was fully justified: the statesman and the sculptor had both made her city a pride and a wonder for all ages. They left to their children a glorious heritage; but a scanty surface on a craggy rock, scarcely more than 900 feet in length or 400 in breadth, sufficed to contain it. On what other spot of equal size has so much of faultless beauty and grace and majesty been ever brought together?"

——The *Quarterly* contains a long paper on Berkshire, following out a course of topography commenced in previous numbers. There is a paper on Life Assurance Societies, which would interest most of our readers. Speaking of William of Wykeham and Windsor, the writer of the first-named article says:—

"It must be confessed that the great William had but a poor time of it, from 1357, when he was appointed, down to 1373, when his work was finished, what with the plague coming to Windsor, his men running away, the sheriffs getting negligent, and the king in hot haste to get the job done. And we find him altogether justified in placing the three words '*This made Wyckham*' on a stone in the Winchester Tower. A sycophant courtier, however, reported to the old king that William had inscribed '*Wyckham made this*' on the royal castle; whereat the kingly wrath had like to have blazed out against the architect, but was appeased by the explanation, that the fame of building the castle had been the making of him the aforesaid William, and that nothing more was meant."

——*Titan* of this month contains a graphic sketch of the potteries and pot-making, under the title of "The Land of Pots."——The *Universal Review* has some well-written articles.——*Once a Week*, the new periodical started by Messrs. Bradbury and Evans, boasts such a staff of both authors and artists as should ensure for it an enormous circulation. Some of them have not yet done their best in it, but each number has been a remarkable three-pennyworth notwithstanding.

Miscellanea.

TELEGRAPHIC.—Mr. John Macintosh, of North Bank, Regent's-park, is said to have invented a new submarine telegraph. India-rubber is used as the insulating agent, and permeability to water is said to be prevented by immersing the coated wire in bisulphuret of carbon and chloride of sulphur.

NEW SCHOOL-ROOMS FOR BRENTFORD AND HOUNSLOW.—The foundation-stone of New British School-rooms for Brentford and Hounslow has just been laid. The new building is about the centre of the town, and will be a red brick and stone edifice, from a design by Mr. Figg, of Brentford, surveyor. Messrs. Adamson and Sons, of Turnham-green, are the builders.

NOISOME RIVERS.—London is not the only town suffering from a stinking river. The inhabitants of Hadlow are complaining loudly of the state of the Bourne, which "poisons the atmosphere for at least a quarter of a mile on each side of the stream; and Hadlow has within the last few years suffered severely from epidemic diseases." At Liverpool St. George's Basin has been "presented" by the grand jury. "The pestilential state of the basin," says a local paper, is incomparably worse than anything of the kind ever complained of, or at least ever endured, from either the Thames or the Clyde." The *Times* correspondent says that Marseilles is still worse.

DANGEROUS CONDITION OF SAINT GEORGE'S CHURCH, LIVERPOOL.—The church of St. George in the Crescent, at the top of Lord-street, has been discovered to be in a critical condition. Evidences have shown themselves in the vestry, at the south-west corner, says the local *Courier*, that some portion of the foundation has given way, and it is feared that the spire, one of the loftiest in Liverpool, is not as safe as it might be. The church belongs to the corporation, and is the one which the mayor and corporate officials usually attend every Sunday. Measures have been taken to prevent any accident. Spaces round the north and south-west ends have been boarded in, and a massive scaffolding is in course of erection on the south side, where the danger is most apparent. Some years ago, the spire, which was originally surmounted by a ball, was considerably shortened, as it frequently swayed to and fro in high winds, to the great alarm of the neighbourhood.

SWINDON.—Sir: You have often before referred to sanitary affairs at Swindon, where Mr. C. A. Wheeler has for more than ten years agitated for official remedial measures. Nearly all his staunchest opponents, including the Lord of the Manor, have come round, and advocate adoption of the Local Government Act; but many of the former friends of the Public Health Act have turned round against doing anything more than the imperfect Nuisances Removal Act empowers. They are aware that most wretched schemes have been adopted in direct opposition to an engineer's plans (for which the parish had paid), but having paid dearly for stupidity, it is argued that, as the carrying out perfect plans would probably involve the undoing of much work recently done, the enormities must remain, and thus, without power to compel a single houseowner to use the costly sewers already executed, the evils for which the public money has been wasted in futile attempts to remedy must be submitted to. I have been opposed to giving power into the hands of a Central Board, but begin to doubt whether in rural districts, with petty conflicting interests, any great good can come until sanitary regulations become compulsory and universal. — A LOOKER-ON.

MOULDED BRICKS.—We are requested to state that, as well for the purposes of exhibition in the construction division of the South Kensington Museum as to show what can be done in moulded brickwork for the proposed arcades of the Horticultural Society, manufacturers are requested to send specimens and their prices to the secretary of the science and art department at Brompton.

MATERIAL FOR INTERNAL DECORATION.—The agates and other similar stones, found upon the sea-beach and in gravel, might, by the aid of steam, be cut and polished at an expense small enough to admit of their being used, set in cements after the manner of mosaic, as an internal facing for walls. W. SCARGILL.

SCARCITY OF WATER IN DUBLIN.—An advertisement from the corporation says:—"*The supply of water to the sources from which the city is supplied has become deficient*, and in consequence they have to press on the citizens the urgent necessity of economizing the use of water in every way possible, and to prevent all waste, as there are reasons for apprehending that a continuance of the present dry weather may be attended with serious consequences to the manufacturers and citizens generally, if such precautions are not taken," &c. &c. The questions at once suggest themselves, why should this be?—to whom is the blame attributable?—what about the improved waterworks, so long talked of?

THE SURREY THEATRE.—Sir,—The admirable criticisms that occasionally appear in your valuable paper, on the construction and arrangements of our theatres, induce me respectfully to solicit your attention to the enormous space occupied by the box-lobby at the Royal Surrey Theatre. I venture to say that if proper advantage was taken of the room there thrown away, by a skilful architect, from three to four hundred persons might be comfortably seated, instead, as is now the case, of having to stand leaning over the high inclosure which separates the boxes, during the whole performance, grumbling, as John Bull invariably does, at their uncomfortable position. From the character of the performances at this theatre, the lobby is often crowded; and should you do me the favour of giving publicity to this brief notice, and it chance to meet the eye of the lessees, they may probably think it worth their while to consider whether something cannot be done to remedy the evil I have pointed out.—PHILIP MILDMAY.

WINDSOR CASTLE.—Considerable improvements are contemplated on the north side of St. George's Chapel and the Cloisters. A house has been pulled down and another will also be speedily demolished, and other alterations effected. The plaster has been knocked off the walls of the Dean's Cloisters, with the intention of showing the ancient stone and chalk with which they are built, but, with the exception of two sides which are in tolerable condition (the south and east), the remainder, according to the *Windsor Express*, is so intermixed with bricks and other unsightly material that it is probable a coating of plaster must be again the remedy. Workmen are engaged in making good the stone-work of the two sides alluded to. The monuments will be removed to another part of the Cloisters, and the ceiling raised on the side next to the Tomb-house, so as to show the apex of the arches hitherto hidden. The pillars from which these arches spring are of fire-stone and Purbeck marble. A Gothic window and door-way, which had been blocked up for centuries, were found on either side of the entrance to the deanery.

"STEAM SUPERSEDED."—Dr. A. H. Ensman, of Stettin, proposes, as a substitute for steam, carbonic acid in the solid form, and anticipates that his discovery (?) will lead to the navigation of the atmosphere with balloons. It is nearly a quarter of a century since Thilorier succeeded in producing solid carbonic acid, and the process of making it has since been much simplified by Faraday and Natterer. Faraday has stated that carbonic acid is a singular substance, on account of the high pressure which emanates from it in passing from the solid state: there is nothing equal to it in this respect. Its vapour is said to have an enormous pressure which increases with its temperature. At Zero, it is equal to 23 atmospheres; at 16 degrees, to 29 atmospheres; and at 32 degrees, to 38 atmospheres. The only difficulty was the production of the solid acid in sufficient quantities; but Natterer has succeeded in obtaining several pounds at once, and his apparatus, which will stand a pressure of 2,000 atmospheres, is now sold in Vienna for 10*l*. We are not told the cost per pound of the acid, nor its economy as compared with steam.

BRICKS FROM DRY CLAY.—At the Warwick meeting of the Royal Agricultural Society lately, a machine, invented by Messrs. Madeley and Craven, of Wakefield, was exhibited by Messrs. Humphrey and Chamberlain, of Worcester. By this machine bricks are said to be made from perfectly dry clay, so that when moulded they can be taken direct to the burning kiln. It is said to be capable of making 15,000 to 25,000 bricks per day.

GIGANTIC STEAM HAMMER.—The Mersey Steel and Iron Works Company, according to the *Liverpool Journal*, have had an immense steam hammer fitted up for carrying on the Clay steel-making invention. The size of this implement is so great, says the *Journal*, as almost to arouse the conjecture that a statement of its dimensions must in some measure prove an invasion of the regions of romance. The width between the upright supports is 14 feet 6 inches: the weight of the piston and hammer is fully eight tons; and this enormous mass, when employed in working, has a fall of 6 feet. The piston and projection-rod, which are in reality one, and of one piece, is 15 inches in diameter, by about 7 feet in length: it is one admirably-forged piece of steel, made by Clay's process, and manufactured at the Mersey Works, under that gentleman's own superintendence. Its weight is seven tons, probably one of the largest masses of steel in existence. The anvil block is a square, measuring 9 feet on each side. From the base it is contracted upwards, in the form of buttresses, till, at the height of 6 feet, it terminates in a kind of truncated pyramid, about 3 feet square on the upper surface. This stupendous mass of cast iron weighs not less than 32 tons 15 cwt. It was successfully run at one casting, by Messrs. Fawcett, Preston, and Co. The total height of the hammer is about 23 feet, and the absolute weight of the metal in the apparatus, including bed-plates, framing, and anvil-block, is fully seventy tons. It is worked by steam, furnished from the general steam supply of the works. In practical operation it was found to work well and smoothly. The whole fabric is firmly fixed in the sandstone rock.

REPORT ON KEW GARDENS. — Sir William Hooker has lately presented to the Chief Commissioner of Her Majesty's Works a Report on the Progress and Condition of the Royal Gardens at Kew, from 1853 to 1859. Sir William, who is the director of this important and extensive national establishment, states that it is only within the last six years that the Royal Gardens can be considered as a complete national establishment. The Botanic Gardens, which, when transferred in 1841 by the royal family to the public, consisted only of eleven acres, now extend to seventy-five acres. This is exclusive of the pleasure-grounds. The visitors in 1841 were 9,174; and in 1858, 405,376, exclusive of those to the herbarium and library. The good behaviour of these, often inconveniently crowding the plant-houses and museums, has been throughout of the most satisfactory nature. The greatest number admitted on any one day to the gardens was 13,761. The months during which the attendance is greatest are June, July, and August; those when the visitors are fewest, November, December, and February. For the further gratification of the public, increased grants have been recently made for the higher keep and ornament of the gardens. More flower borders have been designed, new shrubberies and clumps have been formed, and standard flowering plants and trees have been planted. The director states that all the hot-houses and green-houses are progressing satisfactorily, both in beauty and usefulness. The green-house coniferæ, and other trees and shrubs of temperate climates, that require protection in winter alone, show symptoms of deterioration, caused, as the director alleges, by want of suitable house accommodation, which he hopes will soon be remedied by the erection of a gigantic glass house for the culture of large coniferæ. The arboretum, or pleasure-grounds, comprise 250 acres. This area is divided into—1. The arboretum; 2. Nurseries; 3. A large lake in process of formation; and 4. The Queen's garden. There are two nurseries. In 1856, 1,010 trees (chiefly planes and elms) were furnished to plant in the metropolitan parks; in 1857, 13,389; and in 1858, 20,814 to the parks and the new grounds at Kew. The Queen's garden, originally consisting of 12 acres, has recently been enlarged by 14 more acres being taken in. Under the head of museums the director states that the cost incurred in filling the new and large museum has been exceedingly small. The Kew herbarium has, during the past year, received a vast accession by the addition of the enormous collections of plants made in India by order of the Indian Goverment.

SOUTH KENSINGTON MUSEUM.—During the week ending 16th July, there have been 6,204 visitors. At the Museum of Patents, there have been 1,822.

GAS.—The price of gas at Colchester, which some years since was reduced from 8s. 6d. to 6s. is now to be reduced to 5s.; and, "we believe," says the *Essex Telegraph*, in announcing the reduction, "that the lessees will find that increased consumption follows the lowering of the price, and it is a fact that the gasmakers formerly lost money at 15s. per 1,000 feet in one town, where they are now deriving a good income at 3s. 4d." ——The Boston Gas Company are about to declare a dividend of 8½ per cent. out of receipts amounting to 8,588*l.* after deduction of 6,652*l.* for disbursements, leaving a balance of about 1,936*l.* The company have extensive new works in progress.——The licensed victuallers in Manchester and Salford, dissatisfied, as there is too much reason everywhere to be, with the meter system, have issued a circular, drawing the attention of the gas consuming public to Lord Redesdale's bill in the House of Lords, for the establishment of a fixed legal standard of gas measurement, and urging an expression of public opinion on the subject.

PLUCKING A DAW OF ITS BORROWED FEATHERS. The *Notts Guardian* speaks of "a scene in the meadows" in regard to a block of buildings recently in course of erection there. Rumour has it, says the writer, that, some time ago, a certain gentleman, who is nameless, employed and entered into an agreement with a builder in the town, to construct for him the buildings in question. The agreement made, the builder proceeded until the work was in a condition approaching completion, when an untoward disclosure leaked out. It was said that the enterprising speculator, at whose instance the work was undertaken, had been active in strategy with a view to his own pecuniary advantage; that is to say, that he had mortgaged the property and pocketed the money. Having satisfied himself, rumour continues, that such was the true state of the case, the builder communicated with the plumbers, the slater, and the gentleman who supplied the bricks and chimney-pots, and they proceeded in a body, with their assistants, to the spot, where they at once began to undo the work which had cost so much time and trouble, that, if possible, they might save the materials. The work of demolition speedily progressed, until the roofs had been cleared, the floors taken up, the spouts taken away, the chimney-pots brought down, &c.; but, whether the mortgagee or some one else has interfered we know not; in any case they have stopped, and the dismantled walls are still standing, surmounted by the skeleton roof. So much for speculative house-building.

THE DRINKING FOUNTAIN MOVEMENT. — A large meeting of the working men and women of St. Giles's has been held at the Bloomsbury Mission Hall, to adopt measures to secure at their own cost the erection of a free drinking fountain. The site suggested is in the midst of a cluster of gin palaces, in a densely populated neighbourhood. More than half the required sum has been subscribed. —— The first drinking fountain yet established in Oxford has been erected in the Free Public Library and Reading Room. It is the gift of Mr. Richard Cox, and has been manufactured by Mr. Clifford, from the design of Mr. Seckham. It is made of a soft stone ornamentally chiselled, while the basin is of marble. The *Herald* thinks, however, that it has perhaps too much the appearance of a fancy wash-hand stand. ——The last of the six drinking fountains given by Mr. Livesey to Preston has been erected. There are three fixed in walls: these are of Aberdeen granite. The other three are standards, cast by Mr. Whitehead, and painted green; the inside of the basins white: they have also a font at the bottom to receive the waste water for dogs. All are supplied with galvanised ladles. —— An iron standard drinking fountain has been erected in Railway-street, York. In appearance it is not unlike a pillar letter-box, with two ladles. There are also cattle and dog troughs.——Mr. C. Salmon, of West Hartlepool, and the local Temperance Society, have each presented a fountain to that town. It is said to be the intention of the West Hartlepool Harbour and Railway Company to erect three other fountains. —— The Dublin Society for Promoting the Social Improvement of the Working Classes waited on the Lord Mayor to consult his lordship relative to the erection of free drinking fountains in this city. His lordship warmly entered into the views of the society, and stated that he intended to erect one at his own expense in Grafton-street.

MR. GEORGE CUBITT'S CHURCH, AT DORKING.—The Church of St. Barnabas, now in course of erection on Ranmore Common, at the cost of Mr. George Cubitt, of Denbies, son of the late Mr. Thomas Cubitt, is making rapid progress. The spire will be about 150 feet high. The parsonage house is already finished.

RATING: APPEAL.—The Chartered Gas Company, *v.* St. Leonard, Shoreditch. The appeal of the company against the recent survey and valuation of the parish, made by Mr. Paine, was formally withdrawn by consent, at the July sessions, the company, through their Solicitors, Messrs. Crowder and Maynard, having undertaken to pay upon the full amount of their rating, viz., 1,500*l.* per annum, for their works, plant, and premises in Worship-street, and also all arrears which have accrued since the survey.

MESSRS. OSLER'S SHOW ROOMS, OXFORD-STREET. — The show gallery which has been erected under the direction of Mr. Owen Jones for Messrs. Osler, at 45, Oxford-street, is charmingly elegant and effective. The roof, a trefoil, is similar in construction and character to that of the London Crystal Palace, already fully described in our pages, and is fitted with red, yellow, white, and blue glass. At all the intersections of the ribs are arrangements for the display of chandeliers, of which there are a number of brilliant specimens. Looking-glasses on both sides, and a noble one at the end, repeat indefinitely the magnificent display of glass that fills the tables, themselves all mirrors. The ceiling is of white and gold, with very slight colourings of red and blue. The rooms demand a visit.

DRAINAGE IN PARIS. — The termination of the great conductor beneath the pavement of Paris, says an English cotemporary, is regarded as a success by the engineers connected with the enterprise. The gigantic drain is destined, it appears, to form the great artery of a system of sewage which has long been in contemplation, both for the salubrity of the city and for economy at the same time. Two of these stupendous drains are to be constructed in a line parallel with the Seine, and to conduct the refuse waters of the city into a vast reservoir, whence they are to be disseminated as liquid manure over the most barren of the plains round Paris. The system adopted is that experimentalized at Berlin with such eminent success that the sandy plains, in the midst of which that city is situated, have been converted, within the space of a few years, into the richest meadow land in the whole of Northern Germany. The prevalence of epidemics and miasma during the autumn months in Paris have always been attributed to the immense mass of stagnant waters left to corrupt beneath the slightly covered drains which run beneath the houses, whence they creep as lazily as they list into the Seine. The new system, which will come into action in October, is considered one of the greatest benefits conferred as yet upon the inhabitants of Paris by its municipality.

THE BURHAM BRICK, POTTERY, AND CEMENT COMPANY, (LIMITED.)—This Company is formed for the purchase of the extensive brick and cement works, established by the late Mr. Thomas Cubitt, at Burham, on the river Medway, which he succeeded in making what they are now believed to be—the most extensive and complete of their kind in the kingdom. In the brick department are comprised twenty kilns, capable of burning 2,250,000 at once; seventeen acres of covered hack grounds and drying sheds; seventeen Ainslie brick and tile machines, as improved by Cubitt, with all the requisite gearing machinery, small plant, &c., and driven by a pair of condensing steam engines, of 220 horse-power, by Maudsley, Sons, and Field; also large malm backs, wash mills, engines, by Clayton, Shuttleworth, and Co., and a reservoir of three acres extent, filled by the tide for the general supply of the works; three miles of iron railway, intersecting the works, with the requisite turn-tables, weigh-bridges, &c., and running down to the river side, where there is a wharf forming a boundary to the works, with stone fencing-walls, of a sufficient extent to load six barges simultaneously. The cement works comprise four kilns, three drying stoves, nine cooking ovens, wash mills, engines, pumps, pipes, &c., and a separate wharf on the river: there is also on the opposite side a wharf belonging to the sand-pits. Arrangements have been made with the executors of the late proprietor, for the purchase of the whole of the premises, machinery, plant, &c., at a cost of half the original outlay, a large proportion remaining on mortgage, at the usual rate of interest. The directors anticipate a profit estimated at fifteen per cent. on the outlay: their offices are at Gresham House, Old Broad-street.

PREPARATION OF SILICA FOR FIRE-GOODS.—Sir,—I beg to enclose you a small piece of clay to show what fine sifting will do to harden the material, which I believe is the only right sort for the formation of furnaces. Iron is too great an absorbent of heat to be used as grating bars, and is likewise too expensive. A baker's grating bars last from five months upwards; those under sugar coppers, one or two crops. By the scientific application of this material we may do away with the blacks in smoke, and a tile simply perforated with ¼-inch holes is what I find to answer best. Every day seems to bring some new idea to light on the subject of combustion, and I grieve that men are so backward in testing that which would serve to increase rather than decrease life. Witness our wars! Where is the sanitary argument in their favour? With every hope of seeing the glories of peace in our time and the *Builder* flourish with all works of art and science, I am, &c. C. M. DICK, senior, Ex-sugar-grower, of Trinidad, W.I.

TENDERS.

For new Tabernacle for the Rev. C. H. Spurgeon. Mr. W. W. Pocock, architect. Quantities furnished by Mr. Corderoy:—

	Carcase.	Finishings.	Total in Bath Stone.	Add for Portland Stone in lieu of Bath Stone.	Total.
	£	£	£	£	£
Nicholson and Son	14930	8515	23445	2925	26370
Keys and Head	14800	7700	22500	2890	25390
Lawrence and Sons	14530	9200	23730	1650	25380
Coleman	14690	8050	22740	2095	24835
Ashby and Sons....	13559	8570	22129	2234	24363
Thompson	13568	7350	20918	2700	23618
Colls and Co.....	13020	8270	21290	2040	23330
J. Jay	13059	6768	19827	3330	23157
Piper and Son	14054	7792	21846	1290	23136
Downs.....	12480	7990	20470	1890	22360
G. Myers.....	12750	7050	19800	2432	22232
J. Wilson	12578	7317	19895	1755	21650
W. Higgs	13000	7000	20000	1500	21500

For new building for Messrs. Debenham, Storr, and Sons, King-street, Covent-garden. Mr. A. Allom, architect. Mr. M. D. Wyatt, consulting architect:—

Holland	£7,730 0 0
Ashby and Sons	7,342 0 0
Lucas, Brothers	7,247 0 0
Ashby and Horner	7,100 9 0
Longmire and Birge	6,997 0 0
Carter	6,990 0 0
Hack	6,937 0 0
Piper and Son	6,930 0 0
Lawrence and Sons	6,879 0 0
Myers	6,879 0 0
Nicholson and Sons	6,800 0 0
Mansfield	6,760 0 0
Jay	6,716 0 0
Wilson	6,654 0 0

[*Debenham and Storr.*—Sir: Will you be good enough to give insertion this week to the list of tenders herewith sent for the above, as also to this letter, as we wish to be informed of what use is it for builders to waste time and every other attendant expense in making out estimates, when, as in this instance, the lowest man is not to have the job, although all those whose names appear were specially invited to compete? Upon the tenders being known, Mr. Wilson gave up his schedule, *which was received*, and in answer to a question put by Mr. Wilson, he was told he would be honourably dealt with. Within two hours of this, Messrs. Mansfield and Son received intimation of their tender being accepted; and when they inquired why theirs was accepted, not being the lowest, and Mr. Wilson's was rejected, they were told that no reasons would be given, but that Messrs. Debenham and Storr intended to avail themselves of the "reservation clause inserted in the conditions about rejecting any of the tenders," and that if they did not choose to accept the works they should have to apply to some one else. Is this "honourable dealing?" Again, is any party warranted in making use of this clause, when every one invited is considered to be respectable and responsible, or, why *invite* them? We trust you will afford space for this, so as to elicit guidance for the future.

D. NICHOLSON AND SONS.]

For works at South Kyme, Lincolnshire, for the Honourable Charles H. Cust. Mr. Edward Browning, architect, Stamford:—

	Oliver's Farm Buildings.	Hyde's Farm, House, and Buildings.	Total.
	£.	£.	£.
Messrs. Mills and Sons, Whittlesea..	2283	1696	3979
Messrs. Calvert and Belton, Branston, and Metheringham.....	2150	1800	3950
Ben. Broadbent, Leicester	2060	1630	3690
Stephen Dawson, Spalding.....	1940	1650	3590
Robert Smith, Dickleburgh	1915	1633	3548
Wm. Kirk, Lincoln	1940	1600	3540
Kirk and Parry, Sleaford	1926	1614	3540
Ben. Booth, Boston.....	1850	1580	3430
E. J. Robinson, Hull	1874	1527	3401
Hobson and Taylor, Hogsthorpe....	1896	1470	3366
S. and W. Pattinson, Ruskington ..	1768	1562	3330
H. Pinchbeck, Horncastle (not acc.)	1530	1355	2885

For building a warehouse at Shadwell. Mr. William Dobson, architect:—

Hedges	£2,594 0 0
Wood	2,180 0 0
Ennor	2,170 0 0
Ayres and Co.	2,017 0 0

For alterations to premises, Old Fish-street, City, for Messrs. Wright. Messrs. John Young and Son, architects. Quantities furnished by C. T. Shoppse:—

Patman	£1,489 0 0
Ashby and Sons	1,363 0 0
Mansfield and Son	1,350 0 0
Conder	1,333 0 0
Ashby and Horner	1,330 0 0
Axford	1,290 0 0
Lawrence	1,282 0 0
Little	1,276 0 0

For works to be done in addition and alterations to premises, Old Change, Cheapside, for Messrs. Pell and Co. Tillott and Chamberlain, architects:—

Brass	£1,126 0 0
Lawrence and Sons	1,033 0 0
Conder	950 0 0
Piper and Son	944 0 0
Pritchard and Son	914 0 0
Heath (accepted)	898 0 0

For new villa residence at Walthamstow, for Mr. John Palmer. Mr. W. Brown, architect:—

A. Reed	£992 0 0
Hopper and Heathcote	945 0 0
A. S. Reed	898 0 0
C. W. Wiggs	825 0 0
Seagrave and Blofield	795 0 0
Cushing	790 0 0

For works to be done to premises, Lavender-hill, Wandsworth, Surrey, for Mr. Elliott. Tillott and Chamberlain, architects:—

Pritchard and Son	£333 0 0
Heath	299 0 0
Wills	293 0 0
Jennings (accepted)	275 0 0

For a dwelling-house and offices at Rollestone, near Newark, for Mr. Edward Hall. Mr. Alfred Allen, architect. Quantities supplied:—

	Total.	Old Materials.
Fisher	£865 10 0	£43 8 0
Duke	780 1 0	40 0 0
Mackenzie	774 0 0	64 0 0
Parlby	781 10 5	75 0 0
Henderson (acc.)	775 0 0	70 0 0

TO CORRESPONDENTS.

General P.—W. C.—E. W. E. (book shall be returned).—H. P. C.—F. W.—J. P. (paper has not arrived).—Silex (any practical chemist, or apply to Mr. Ransome, Canon-row, Westminster).—F. C. (ditto).—J. D. P.—T. W. R.—J. A.—J. W.—W. D. M.—W. H. (not sent in time. Let us know the result.)—J. S.—T. W. P.—Tourist ("Handbook of Architecture for the Unlearned," 1, York-street, Covent-garden).—Mr. S.

Post-office Orders and Remittances should be made payable to Mr. Morris R. Coleman.

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Aylsham, 12th July, 1859.

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